COMMISSION ON BUILDING DISTRICTS AND RESTRICTIONS

FINAL REPORT

JUNE 2, 1916

SUPPLEMENTARY EDITION

THE CITY CLUB OF NEW YORK
55 WEST 44th STREET

CITY OF NEW YORK
BOARD OF ESTIMATE AND APPORTIONMENT
COMMITTEE ON THE CITY PLAN
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Edward M. Bassett, *Chairman*
Lawson Purdy, *Vice-Chairman*

Edward C. Blum	Alfred E. Marling
James E. Clonin	George T. Mortimer
Otto M. Eidlitz	J. F. Smith
Burt L. Fenner	Walter Stabler
Edward R. Hardy	Franklin S. Tomlin
Richard W. Lawrence	George C. Whipple
Alrick H. Man	William G. Willcox

Robert H. Whitten, *Secretary*

COMMITTEES

Borough of Manhattan—Walter Stabler, *Chairman;* Otto M. Eidlitz, Alfred E. Marling, George T. Mortimer.

Borough of The Bronx—Richard W. Lawrence, *Chairman;* Edward R. Hardy, Alfred E. Marling.

Borough of Brooklyn—Franklin S. Tomlin, *Chairman;* Edward C. Blum, Lawson Purdy.

Borough of Queens—Alrick H. Man, *Chairman;* James E. Clonin, Burt L. Fenner.

Borough of Richmond—William G. Willcox, *Chairman;* J. F. Smith, George C. Whipple.

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George B. Ford, *Consultant*
John P. Fox, *Transit Expert*
Herbert S. Swan, *Investigator*
George W. Tuttle, *Assistant Engineer*
Edward M. Law, *Assistant Engineer*

CONTENTS

CHAPTER I—INTRODUCTION

June 2, 1916.

To the Board of Estimate and Apportionment:

On May 22, 1914, the Board of Estimate and Apportionment adopted the following resolution:

"Whereas, Chapter 470 of the Laws of 1914, approved by the Governor April 20, 1914, authorizes the Board of Estimate and Apportionment to divide the City into districts and to regulate the height of buildings, the area of courts and open spaces, the location of trades and industries and the erection of buildings designed for specified uses; and

"Whereas, The statute provides that before establishing such districts and adopting such regulations the said Board shall appoint a commission 'to recommend the boundaries of districts and appropriate regulations to be enforced therein'; therefore be it

"Resolved, That the Board of Estimate and Apportionment appoint a Commission on Building Districts and Restrictions of not less than nine, nor more than nineteen members, serving without pay, if not already in the employment of the City, to recommend the boundaries of districts and appropriate regulations to be enforced therein; and

"Resolved, That the Committee on the City Plan of the Board of Estimate and Apportionment, the chief engineer of the Board, the presidents of the various boroughs and the various city departments be requested to advise with the Commission, and to co-operate actively with it in the preparation and study of the necessary data; and

"Resolved, That the secretary of the Committee on the City Plan shall serve also as secretary of the Commission; and

"Resolved, That before reporting its recommendations the Commission shall hold public hearings thereon."

On June 26, 1914, the present Commission on Building Districts and Restrictions was appointed pursuant to the above resolution.

The work of the Districting Commission was preceded by the investigations and report of the Heights of Buildings Commission. On February 27, 1913, the Board of Estimate adopted the following resolution:

"Whereas, There is a growing sentiment in the community to the effect that the time has come when effort should be made to regulate the height, size and arrangement of buildings erected within the limits of the City of New York; in order to arrest the seriously increasing evil of the shutting off of light and air from other buildings and from the public streets, to prevent unwholesome and dangerous congestion both in living conditions and in street and transit traffic and to reduce the hazards of fire and peril to life; and

"Whereas, Under the provisions of Section 407 of the Charter, the height and size of buildings may be regulated by city ordinance, but such ordinance must first have the approval of the Board of Estimate and Apportionment; therefore be it

"Resolved, That the chairman be authorized to appoint a committee of three members of the Board of Estimate and Apportionment to take this general subject

under consideration, to inquire into and investigate conditions actually existing, and to ascertain and report whether, in their judgment, it is desirable to regulate the height, size and arrangement of buildings hereafter to be erected or altered within the city limits, with due regard to their location, character or uses, to examine into the practice and the comparative experience of other cities either here or abroad, and to consider and report upon the question of the legal right of the City of New York to regulate building construction in the manner proposed; and be it further

"Resolved, That such Committee may also investigate and report whether, in their judgment, it would be lawful and desirable for the purpose of such regulation to divide the City into districts or into zones, and to prescribe the regulation of the height, size and arrangement of buildings upon different bases in such different districts or zones; and be it further

"Resolved, That the Committee, when appointed, may in turn appoint an advisory commission to aid in its work, such commission to consist of as many members as the Committee may determine, serving without pay, if not already in the employment of the City, but including representatives of each of the several boroughs, and that either the Committee or its advisory commission may hold public hearings in each of the boroughs and may use all appropriate means to bring the subject to the attention of the taxpayers and to other persons who may be interested; and be it further

"Resolved, That the Committee be empowered to employ a secretary, who shall also be the secretary of the advisory commission, to secure such expert or technical advice as it may require for its proper guidance, and to incur such other incidental expenses as it may from time to time find necessary, such disbursements to be made from the contingent fund of this Board, but not to exceed in the aggregate the sum of $15,000; and be it further

"Resolved, That the said Committee be instructed to submit, if practicable, in advance of any general report that it may make, suggestions and recommendations with relation to the proposed limitation of the height of buildings upon Fifth avenue, between One Hundred and Tenth street and Washington Square, in the Borough of Manhattan, and within certain prescribed areas on either side of the said avenue, as proposed in the resolution presented to this Board on May 9, 1912, and now pending; and be it further

"Resolved, That such Committee shall submit its final report and recommendations to the Board not later than six months from the date of its appointment, and shall thereupon cease to exist."

In accordance with this resolution the Mayor appointed a Heights of Buildings Committee with George McAneny, President of the Borough of Manhattan, as Chairman. This Committee appointed an Advisory Commission consisting of the following members: Edward M. Bassett, Chairman; Edward C. Blum, Edward W. Brown, William H. Chesebrough, William A. Cokeley, Otto M. Eidlitz, Abram I. Elkus, Burt L. Fenner, J. Monroe Hewlett, Robert W. Higbie, C. Grant La Farge, Nelson P. Lewis, George T. Mortimer, Lawson Purdy, Allan Robinson, August F. Schwarzler, Franklin S. Tomlin, Lawrence Veiller and Gaylord S. White.

On December 23, 1913, this Advisory Commission submitted its report. The Commission, through its technical staff, made extensive investigations, both of existing conditions in New York City and of the practice and experience of other cities, both domestic and foreign, including an intensive study of the zone regulations of German cities. The Commission held an extended series of hearings and of conferences with leading experts and others rep-

resenting the civic, social, professional, business and real estate interests of the entire city. The Commission's report of 295 pages contains a thoroughgoing and authoritative discussion of the problem of regulating the height, area and use of buildings. The Commission states that it finds conclusive evidence of the need of greater control over building development. "The present almost unrestricted power to build to any height, over any proportion of the lot, for any desired use and in any part of the city, has resulted in injury to real estate and business interests, and to the health, safety and general welfare of the city." The Commission found that any complete system of building control necessitated the application of different regulations to different parts of the city and accordingly recommended that the city be divided into districts and that the restrictions for each district be worked out with reference to the peculiar needs and requirements of that particular district.

The resolution under which the Heights of Buildings Commission was appointed directed it to investigate and report on whether in its judgment a districting plan would be lawful. The Commission gave much attention to this problem and considered carefully the various laws and decisions bearing on the subject. As a result of such consideration the Commission gave as its mature opinion that reasonable and appropriate regulations for the districting of the city are constitutional under the general police powers of the State. The Commission submitted a draft charter amendment permitting the Board of Estimate and Apportionment to divide the city into districts for the purpose of regulating the height of buildings, the area of courts and open spaces, the location of trades and industries and the location of buildings designed for specified uses. This draft amendment was passed by the Legislature, approved by the Governor and became a law April 20, 1914. (See Appendix I). Pursuant thereto the present Districting Commission was appointed.

Taking up the work where the former Heights of Buildings Commission left it and using its data, investigations and report, the Commission has during the past two years made an exhaustive study of the entire subject. The Committee on the City Plan of the Board of Estimate placed at the disposal of the Commission its expert staff. The Commission has made an extensive study of the present distribution of population and of the present and proposed transit facilities, including a detailed transit time zone map showing the estimated time from 14th Street, Manhattan, to every section of the city, under the new dual subway system. Maps have also been prepared showing the distribution of factory employees in the places in which they work throughout the city; also maps showing graphically and in detail the assessed land values per front foot throughout the city. With the aid of insurance and real estate atlases, maps have been prepared for each borough showing at various periods in their history the transit lines and the building development and its use for residential, business and indus-

trial purposes. The present building development has been most carefully studied and maps have been prepared to show graphically and in detail the height of each building and the percentage of the lot covered by it. Maps were also prepared showing existing grades, contours and other topographical features. The entire area has also been studied in detail and on the ground by members of the Commission and its staff of experts.

The Charter amendment under which the Commission is acting directs it before submitting a final report to the Board of Estimate to make a tentative report and hold public hearings thereon at such times and places as the Board shall require. Accordingly on March 10, 1916, the Commission submitted to the Board a tentative report and the Board fixed as dates for public hearings March 27th, 28th, 29th and 30th, and April 3d, 4th, 5th, 6th, 10th, 11th, 12th, 13th, 17th and 18th. In addition to the hearings above specified, adjourned hearings have been held as follows: April 20th, May 4th, 8th, 9th, 10th, 11th, 15th, 18th, 22d, 24th, 25th and 31st.

The tentative report included a brief discussion of the general principles involved in the proposed plan and a draft resolution with accompanying maps embodying the plan in detail. The tentative report and maps were printed and distributed widely among interested individuals and associations. Many of the maps were also printed by various newspapers. A stenographic record was taken of the public hearings. The general opinion expressed was overwhelmingly in favor of the general plan outlined. Not a single organization and only two or three individuals expressed dissent from the general principle involved. Many individuals and associations testified strongly to the urgent necessity for the adoption of the plan proposed. Many asked for detailed modifications of the plan. Most of these were for the application of more restrictive regulations. A few associations and individuals, while heartily commending the plan, urged that, especially as to limitation of height and area covered, the plan be made more stringent. Leading experts in various lines appeared and urged the supreme need for the adoption of the proposed comprehensive plan in the interest of public health, safety and general welfare. Subsequent to the hearings, the Commission considered carefully the various suggestions and protests made to it at the hearings and through written or oral communication. As a result of such reconsideration it has made numerous changes in detail in its proposed plan. The general plan and the principles underlying it have not been materially changed. The revised plan is herewith submitted as the final report of the Commission.

CHAPTER II—NECESSITY FOR A COMPREHENSIVE PLAN OF CITY BUILDING

City planning is a prime need of our city. It is plain common sense to have a plan before starting to build. City building is no exception to the rule. Haphazard city building without a comprehensive plan is ruinous.

The bigger a city grows the more essential a plan becomes. Traffic problems, the congestion of population, the intensive use of land, the magnitude of the property values involved, make the control of building development more and more essential to the health, comfort and welfare of the city and its inhabitants. New York City has reached a point beyond which continued unplanned growth cannot take place without inviting social and economic disaster. It is too big a city, the social and economic interests involved are too great to permit the continuance of the *laissez faire* methods of earlier days.

As has been stated by the Committee on the City Plan of the Board of Estimate:[1] "With or without a comprehensive city plan, the city will probably spend hundreds of millions of dollars on public improvements during the next thirty years. In addition, during this same period, property owners will spend some billions of dollars in the improvement of their holdings. To lay down the general lines of city development so that these expenditures when made will in the greatest possible measure contribute to the solid and permanent upbuilding of a great and ever greater city—strong commercially, industrially and in the comfort and health of its people—furnishes the opportunity and the inspiration for city planning."

While city planning includes the street and block layout, park and recreation system, location of public buildings, sewerage system, water supply, transit and transportation systems, and port and terminal facilities, these constitute but half the problem. The way in which private property, which occupies almost two-thirds of the entire area, is developed is of at least equal importance. No plan for the development of public facilities can be complete and effective unless there goes with it a comprehensive plan for the control of building development on private property.

A street layout planned for a five-story city may be wholly inadequate for a ten-story city. Street capacity adapted to the convenient movement of traffic of all kinds is of supreme importance to the prosperity of the city. Street congestion means loss of economic efficiency and is a menace to public safety and order. We cannot hope to plan an adequate street system unless some limit is placed on the height and character of the buildings that the street system is to serve.

A street and block system that is best suited to a residence section may be entirely unsuited to the needs of a commercial or industrial section.

[1] Development and Present Status of City Planning in New York City, 1914, p. 12.

Certain types of industries are best served by large block units and broad streets. Certain residential sections are best served by shallow blocks and comparatively narrow streets. Without a plan of building control that will segregate the industrial from the residential sections, it is impossible to plan a street and block system that will be suited to the requirements of the various sections and to the uses that it is intended to serve. New York City has suffered serious economic and social loss because its street and block system built up on a distressingly standardized plan has not been adapted to the particular requirements of certain types of industrial, business and residential use. With the existing uncontrolled and haphazard building development a uniform street and block system was the only one that the city could properly adopt.

Nelson P. Lewis, Chief Engineer of the Board of Estimate and a leading expert on municipal engineering and city planning, testified to the need of the segregation of industrial districts from the point of view of improved traffic conditions, a convenient street layout and economic advantage. He said: "This city has suffered tremendous losses by the inflexibility of its street system, which instead of controlling a subdivision has been controlled by the habit of creating lots one hundred feet deep, lying between streets two hundred feet apart, and great enterprises, a number of which were formerly located in the Erie Basin section of Brooklyn, finding themselves hemmed in by rigid street systems to which more or less sanctity was attributed, have been obliged to find new sites on the New Jersey meadows. One conspicuous instance of this is the Worthington Pump Works."

The city's park system is valued at $673,000,000. Large additions to this system will be needed to provide for the requirements of Brooklyn, Queens and Richmond. Unless a park system can be located with reference to the particular residential sections that it is intended to serve, its value is greatly impaired. Various small parks and parkways have been located in what have now become factory sections. A comprehensive plan of building control would have made it possible to have so located these parks that their contribution to the public health, comfort and welfare would have been vastly greater.

The adequacy of the city's future sewerage system is also in large measure dependent on the adoption of a plan of building segregation and height limitation. The city recognizes that in order to prevent intolerable pollution of the waters of the harbor it must adopt plans for sewage treatment. Segregation of factories will facilitate the problem of sewage treatment by making it possible to confine the special facilities required for the treatment of certain trade wastes to certain factory districts. While the height of buildings has comparatively little effect on the adequacy of a combined system of sewerage, storm water and sanitary, it is of the very greatest importance where a separate sanitary system is used. Manhattan

is undertaking in large measure a reconstruction of its sewerage system and, in view of the necessity for the early adoption of sewage treatment, will reconstruct its sewers on the separate system. The other boroughs, for the same reason, will probably adopt in large measure the separate system. Amos L. Schaeffer, Consulting Engineer, Borough of Manhattan, an expert on sewers, testified that the adoption of the Commission's plan of building control will be of great assistance in planning the future sewerage system of the city.

The city is spending an enormous amount of money to extend and improve its rapid transit facilities. This expense was undertaken largely for the purpose of preventing the present indecent, unsafe and unsanitary congestion on the transit lines and for preventing the further congestion of population. New lines were needed, but they alone will be wholly ineffective in preventing the continuance and increase of intolerable congestion during the rush hours on all the rapid transit lines—the new as well as the old. This rush hour congestion problem is the inevitable result of centering all business and industry between the Battery and 59th Street. If everyone must come to Manhattan to work it will be quite impossible to provide adequate transit facilities during the rush hours. The remedy lies in creating numerous other business and industrial centers and checking the extension of the Manhattan areas devoted to business and industry, especially the latter, combined also with a limitation on the intensity of building development in such areas. This corrective the districting plan is designed to furnish. Daniel L. Turner, Deputy Engineer of Subway Construction of the Public Service Commission, a leading expert on city passenger transportation, has testified to the absolute necessity of adopting such a plan for the purposes above mentioned. Mr. Turner said: "Unless a very careful housing and districting regulation, such as you are trying to carry out here is adopted, it will be absolutely impossible for the city to cope with its municipal transportation problem. These two problems have got to be taken together. They are absolutely related to each other. We can provide facilities up to a maximum of the street capacity, but we are rapidly coming to the actual capacity of the streets, so that the housing ought to be so controlled and the manufacturing sites and the working sites, with a view to having the population distributed over the whole area and in that way develop a two-way business on all lines to the very utmost."

With increasing population and attendant congestion it becomes more and more important and difficult to guard the public health. A districting plan to the extent that it reduces congestion and attendant close personal contact on the transit lines and on stairs and elevators, will prevent the transmission of communicable disease. Dr. Haven Emerson, Commissioner of Health, testified to the menace of the rush-hour congestion and the importance to public health of the proposed districting plan, as follows: "Another point in which health authorities foresee benefit to public health

by a consistent plan for the control of the future growth of the city is in the improved conditions of occupancy of traffic conveyances. It is appreciated and acknowledged that the more congested is a traffic conveyance the more dangerous does it become as a means of transmitting communicable disease to others, and there is a constant proportionate increase in infectious organisms found in the air of traffic conveyances as their congestion increases. Observations made in the subway from the Atlantic Avenue Station to 96th Street and back through the subway during the rush hours have shown a constant increase of the disease breeding organisms such as were responsible for the epidemic of infectious colds during last December, January and February. Observations show the presence of these bacteria in such amounts as to constitute a serious public menace. The epidemic cost the city two thousand lives over and above the usual death rate as it prevailed a year ago and for the previous five years. Those deaths were due to organisms which were found constantly in the air in the subway cars, which has been examined in our laboratory."

The importance of the districting plan to the public health as related to provision of light and air is immediate and undoubted. Adequate natural light and air are admitted to be fundamental in health regulation. Much of the entire districting plan is based on the desire to secure for the public as wholesome conditions with regard to provision of light and air as are compatible with the necessary and reasonable utilization of the land. Only through a comprehensive plan for the districting of the city is it possible to apply adequate and effective standards of light and air in the interest of the public health. This is confirmed by the testimony of Dr. Emerson, who says: "I would say that the opinions of physicians have been expressed in reports which are almost identically worded, dating back at least one hundred years, with exactly the same conclusions and recommendations which might be considered parallel with those now arrived at by this Commission; also that the report of 1832 and previous ones of citizens' committees on conditions of health in this city indicated the necessity of providing for the future. These recommendations were made when the development of New York City had not yet reached 14th Street. We are still without the necessary relief, which nothing but this plan of yours can provide."

Sunlight destroys disease breeding bacteria. Artificial light as ordinarily used has virtually no effect upon bacteria. This sanitary effect of sunlight is sufficient reason for its requirement in liberal amount wherever people live and work. Natural light also has undoubted superiority from the standpoint of general health and efficiency of the workers. The use of artificial light results in an increase of eye-strain and reduced physical resistance to disease. Good air conditions are usually possible where there is good natural light; poor ventilation is a usual accompaniment of the dark room. This is borne out by Dr. Emerson in his testimony before the Com-

mission: "It is proved that sunlight in the living room and the sleeping room materially aids in providing resistance against diseases like tuberculosis. The sun has a destructive effect upon disease breeding bacteria. Direct sunlight is a most effective disinfectant. Direct daylight—even though not direct sunlight, has a powerful influence in destroying pathogenic bacteria. In addition to that, people who are able to live in well-lighted apartments have a physical resistance which is superior to that of people who live in dark rooms. That has been proved under exact experimental conditions in laboratory tests and is a matter of common observation among human beings." In the same connection Dr. Emerson said: "Diminished resistance of humans, as with vegetable plants, depends upon the artificiality of their environment. You cannot raise babies without light and air any more than you can raise plants, and where you cannot prove that a disease has followed congestion, you can almost always show diminished resistance."

Health is sometimes regarded as merely the absence of disease, but as has been pointed out by George C. Whipple, Professor of Sanitary Engineering, Harvard University, in a memorandum submitted to the Commission, that is not a complete conception of health. "Health is more than the absence of disease. It is something positive, and involves physique and vitality and it is mental as well as physical. The inherent difficulty at the present time is the absence of scientific methods of measuring this positive element in health. Yet the world knows as a matter of human experience that it is real and vital. The expression 'health and comfort of the people' is centuries old, and these two ideas are inseparable." Health as a positive conception denoting physical and mental well-being will be promoted in many ways by the districting plan. The public health is the sum total of the health of the constituent individuals. Well ordered city development cannot fail to have a marked effect on the physical fitness and vitality of the city's inhabitants.

Dr. Gustav F. Boehme, Jr., neurologist, testified to the rapid increase in nervous disorders and troubles and to the very direct relation between such increase and the present high buildings and haphazard development and the congestion, noise and confusion incident thereto. The necessity for reducing the stress and strain of city life is becoming more and more apparent. This is essential if the city is to be a place in which our heritage of health and vitality is to be used, conserved and handed down to succeeding generations instead of being abused and exhausted.

Congestion of traffic and population and haphazard building make the city's fire fighting problem increasingly serious. It becomes increasingly difficult to move fire apparatus through the congested streets. Streets densely packed with crowds of people that quickly form wherever a fire occurs, interfere with prompt service after the scene of the fire is reached. If a serious fire should break out in lower Manhattan coincident with an

explosion or earthquake shock that would cause a general panic and outpouring into the streets, it might be utterly impossible for the firemen to reach the fire and a terrible conflagration might result. This is the plain truth and it is foolhardy to utterly ignore it and go on piling up buildings and further extending the danger zone. The districting plan will, as to future growth, tend to spread out business and industry, both by limiting the height of buildings and by encouraging the development of commercial and idustrial areas in the other boroughs. In this connection, John Kenlon, Chief of the Fire Department, said in his testimony before the Commission: "In the thirty years that I have been connected with the Fire Department, lower Manhattan has changed from a five-story city to a twenty-five-story city. There is great congestion there at the present time; during the day time it is difficult to move apparatus in response to fire calls, in the lower end of Manhattan Island. Increased congestion of people and traffic in this section will cause very serious delays in getting apparatus to work around the scene of a fire. Even at present it is very difficult until the police reserves arrive and establish fire lines at a safe distance from the scene of the fire. The same condition prevails in the uptown section from 23d Street to 45th Street, particularly at certain hours. The men who laid out the old part of the city 250 years ago had very little conception of the conditions that obtain to-day. Those gentlemen could not possibly see the great 10-ton and 15-ton motor trucks running around on our streets. Downtown to-day it is almost impossible to get through the streets; in ten years from now horses will be a very rare sight on the streets of New York. The small buggy has been superseded by the Packard, which takes four times the space. The streets are too narrow in the lower part of Manhattan to take care of the traffic. It is a serious matter, it requires a great deal of experience, a good hand and strong arm to drive fire apparatus through the streets of lower Manhattan. Any plan that will in a measure prevent the increase of congestion in the central portions of the city is a plan in the right direction."

The segregation of residential, business and industrial buildings will also make it easier to provide the fire apparatus in each section suitable for the character and intensity of development in that section. It will make it easier to provide proper safeguards against fire. It will increase the safety and security of the homes of the people. These facts were testified to by Chief Kenlon of the Fire Department and by Edward R. Hardy, Assistant Manager, New York Fire Insurance Exchange.

Segregation as to use and limitation of height are also essential to the prevention of street accidents. The injury to life and limb from street accidents is enormous and is constantly increasing. In 1915 there were 18,139 vehicular accidents in the streets of New York City. Of these 608 proved fatal. An orderly plan of building development will reduce such accidents. Street accidents and street congestion are directly related.

In so far as the districting plan will tend to reduce congestion it will reduce street accidents. There is also a direct relation between the number of different kinds of traffic using the same street, with its resulting confusion, and the number of street accidents. The segregation of uses with its resultant segregation of kinds of traffic will have a direct tendency to reduce street accidents. In the residential sections the number of accidents to children while playing in the streets is very large. By preventing stores, garages and factories from locating on the residence streets the vehicular traffic on such streets is reduced and as a direct result the number of accidents to children. Of the persons killed by being struck by vehicles in 1915 over half were children.

Ernest P. Goodrich, consulting engineer and city planning expert, testified to the importance of the proposed plan in effecting a segregation of kinds of traffic and thus reducing street accidents. Edmund Dwight, resident manager of the Employers Liability and Assurance Corporation of London, stated his experience as follows: "My experience has indicated that accidents increase as congestion increases, and any plan which will reduce congestion of population in buildings or in areas of the city will reduce the number of accidents. The proposed limitation of heights of buildings will reduce congestion in elevators, which is one of the prolific causes of elevator accidents. Elevator accidents are due in far larger proportion to crowding and to carelessness on the part of passengers, and to unskillful handling, which is itself frequently caused by crowded cars, than to defects in mechanical appliances. The number of street accidents also, in large measure, follow increase in density of population, and it is strikingly the case that the proximity of manufacturing operations to crowded residential districts constitutes a peril, because heavy trucking, express and similar traffic has to be conducted through streets which are crowded with children. There is no question in my mind that limitation of building heights and districting for classes of use, so that manufacturing operations would be carried on in zones, with a minimum residential use, would each tend, in large measure, to the reduction of accidents and to the safety, as well as to the health of the people of New York."

Heretofore we have attacked the problems of public health and safety as related to building development in a piecemeal way. Special regulations have from time to time been provided with relation to tenement houses, factories, garages, theatres and other classes of buildings. Such regulations are often rendered wholly or partially ineffective by failure to control the environment of the building. The Tenement House Law provides for minimum size yards and outer courts which really depend for their adequacy on their being supplemented by similar yards and courts on adjoining lots. If, however, a towering loft building or warehouse is built next to a tenement, the standards of light and air aimed at in the Tenement House Law are impaired. The districting plan makes it

possible to provide suitable and reasonable regulations for each class of buildings and at the same time preserve the advantage of substantially uniform regulations as to building height and yard depth for all structures within the block.

Every city becomes divided into more or less clearly defined districts of different occupation, use and type of building construction. We have the central office and financial district, loft districts, water front and industrial districts, retail business districts, apartment house and hotel districts, tenement house districts, private dwelling districts. Generally speaking, a building is appropriately located when it is in a section surrounded by buildings of similar type and use. Strong social and economic forces work toward a natural segregation of buildings according to type and use. In general, the maximum land values and the maximum rentals are obtained where this segregation and uniformity are most complete. One purpose of districting regulations is to strengthen and supplement the natural trend toward segregation.

In spite of the natural trend toward segregation, building development in many parts of the city is haphazard. The natural trend toward segregation and uniformity is not strong enough to prevent the sporadic invasion of a district by harmful or inappropriate buildings or uses. Once a district has been thus invaded, rents and property values decline, loans are called and it is difficult ever to reclaim the district to its more appropriate use. Individual property owners are helpless to prevent the depreciation of their property. The districting plan will do for the individual owners what they cannot do for themselves—set up uniform restrictions that will protect each against his neighbor and thus be of benefit to all.

While in New York City economic forces tend to the segregation of industries of the heavier type along the water and rail terminals, and to the segregation of certain light industries near the wholesale, retail, hotel and passenger terminal center in Manhattan, there are many kinds of light industry that are free from any segregating force and locate indiscriminately throughout the city. They are found scattered throughout the business and residential sections, especially the residential sections, from which their labor supply is recruited. The factory is usually a blight within a residential section. It destroys the comfort, quiet and convenience of home life. There is nothing more vital to the city than the housing of its people. The exclusion of trade and industries from the residential streets is essential to wholesome and comfortable housing. Stores, garages and other business buildings scattered among the residences are a constant menace to residence property. The concentration of all the neighborhood business buildings on the business streets makes the transaction of business more convenient. The segregation of dwellings on the exclusively residential streets adds to the convenience, quiet and amenities of home life, and thus tends to increase property values on such streets.

In New York City the purely private injury incident to haphazard development has become so serious and widespread as to constitute a great public calamity. Through haphazard construction and invasion by inappropriate uses the capital values of large areas have been greatly impaired. This destruction of capital value, not only in the central commercial and industrial section of Manhattan, but also throughout the residential sections of the five boroughs, has reached huge proportions. It does not stop with the owners in the areas immediately affected, but is reflected in depressed values throughout the city. Market value for investment purposes is always affected by the hazard of the business. Economic depreciation due to unregulated construction and invasion by inappropriate uses has become a hazard that must be considered by every investor in real estate. This extra hazard increases the net earning basis required to induce investment, and consequently lessens capital values throughout the city. Whatever the capitalized amount that may be properly charged to the economic depreciation hazard, it is certainly a huge burden and one that affects not only the individual owners of real estate throughout the city but the savings and other large lending institutions, the municipal finances and the general welfare and prosperity of the whole city.

There is an intimate and necessary relation between conservation of property values as here proposed and the conservation of public health, safety and general welfare. Throughout a city the areas in which values have been depressed by the invasion of inappropriate uses or lack of building control as to height, courts and open spaces, are the areas in which the worst conditions as to sanitation and safety prevail and where there is the greatest violation of the things essential to public comfort, convenience and order. The decline in property value in such districts is merely an economic index of the disregard of essential standards of public health, safety and convenience in building development. Moreover, a depressed district of changing occupancy is almost always a district in which unwholesome home and work conditions prevail. The old building altered to suit a new use is usually very faulty in light, air and sanitation. Declining values make it difficult or impossible to enforce proper standards. These depressed districts create the most difficult and perplexing problems in the establishment and administration of housing and factory regulations.

Moreover, the enormous losses sustained by owners of loft and tenement property will be a serious handicap to the provision of future buildings to house the increasing population and the rapidly expanding industrial development. This may become a very serious matter from the point of view of cheap and adequate housing and safe and convenient factory space.

With some eight billions already invested in New York City real estate and the certainty of added billions in the coming years, a plan of city building that will tend to conserve and protect property values becomes

of vital importance not only to individual owners but to the community as a whole. Why not protect the areas as yet unspoiled and insure that the hundreds of millions that will be spent in the improvement of real estate in the coming years shall contribute to the solid and permanent upbuilding of this great city. Permanence and stability can be secured only by a far-sighted building plan that will harmonize the private interests of owners and the health, safety and convenience of the public.

CHAPTER III—USE DISTRICTS

The Districting resolution herewith submitted, together with the the accompanying use district maps, provide for four classes of use districts: (1) residence, (2) business, (3) unrestricted, (4) undetermined. The proposed regulations apply only to future buildings and do not interfere with any existing structure or occupancy.

In a residence district all kinds of business and industry are excluded. Dwellings, private clubs and most institutional buildings are permitted. The term " dwelling " includes an apartment house, tenement house, boarding house, or a hotel having thirty or more sleeping rooms. The usual accessory buildings, such as private garages, are permitted but they must be located on the same plot with the building to which they serve as accessory. A private garage for more than five motor vehicles would, however, be excluded. A private club that has as its chief activity a service customarily carried on as a business, such as a garage, would be excluded. While the regulations are not intended to interfere with a doctor or dentist who practices his profession in the usual inconspicuous way in his private dwelling, they would exclude any business such as a store in connection with a tenement, club or hotel. It is provided, however, that the superintendent of buildings may, after notice and hearing and with appropriate conditions and safeguards, permit in a residence district any building or use in keeping with its use for residence purposes.

In a business district, residence and business uses are permitted but industrial uses are either prohibited entirely or limited in the percentage of floor space they may occupy. A list of specified industries and uses of a clearly objectionable character are entirely excluded, as are also all other uses that are noxious or offensive by reason of the emission of noise, odor, dust, smoke or gas. No building may be used for factory purposes in excess of 25 per cent. of the total floor space of the building, but a space at least equal to the ground area of the building or lot may be so used. The term " factory " is defined as a building or portion of a building in which six or more persons are employed in any process or part of a process of transforming or converting raw material, partly wrought material or imperfect material into forms suitable for use. This limited provision for factory use in a business district is appropriate both on account of the considerable percentage of factory use required in connection with the retail trades and on account of the numerous customary small trades and factory uses that are necessary or desirable for the convenience of the neighborhood and, if limited in size, are not objectionable from the point of view either of the business use of the street or of the residential use of the adjacent areas.

A garage for five or more motor vehicles will be excluded from a business district except that with the approval of the building superintendent

and after notice and hearing, a garage may be erected in a business district on any portion of a street between two intersecting streets on which there exists a public garage at the time of the passage of the proposed resolution. A similar regulation is provided in regard to stables. In the tentative report it was proposed to permit public garages and stables in any business district, but the nuisance features incident to the indiscriminate location of garages throughout the business districts were so great that the Commission reconsidered its former action. In providing that garages shall in general be forced to go to the unrestricted districts, the Commission has increased the number of small unrestricted sections within convenient access of the local residence and business centers.

The terms "unrestricted district" and "undetermined district" are used to designate the areas for which no restrictions or regulations as to use are provided. It is assumed that the development in the unrestricted districts will be largely industrial. In the undetermined districts either a residential, business or industrial use may prove the more appropriate, depending largely on future port and terminal developments. The undetermined districts differ from most of the other unrestricted areas, chiefly in that it is anticipated that when their appropriate use is more fully disclosed it may seem wise to restrict them in part to business or residence use. The aim has been to give the greatest possible freedom of action and to avoid restrictions that may possibly hinder future growth and development. While it is realized that this can only be partially successful and that any regulations now imposed will have to be changed from time to time, it seems important that they shall be so designed as to secure as high a degree of permanence as is at present practicable.

In general, the salt marshes along and running back from the waterfront have been included in the unrestricted district. Industry very naturally pre-empts such localities both on account of the comparative cost of the land and the possibility of good water and rail terminal facilities. In addition, all other navigable waterfront, where the grades and location are favorable to a commercial or industrial development, is left unrestricted. The unrestricted area is allowed to extend back from the bulkhead line 1,000 feet or more, depending largely on the slope of the land. In many cases the boundary line of the waterfront unrestricted district follows quite closely the 20-foot contour line. This seems to be about the normal level to which industry will extend back from the water.

An examination of the historical maps prepared by the Commission showing industrial development at various periods during the past sixty years in Manhattan and Brooklyn shows surprisingly little change in the breadth of the industrial belts extending back from the waterfronts. There has doubtless been a great deal of change in the character of the industries located in a particular section. The tendency has been for the heavier, bulkier types of industries requiring large plots to move from Manhattan.

They have been replaced by a much larger number of industries requiring less ground area per industry without greatly changing the aggregate requirement for ground area.

The segregation of factories will directly reduce production costs. It will make it possible to have the best rail and water terminal facilities and the best express and mail facilities. It will reduce trucking and thus improve street traffic conditions. It will tend to the segregation of heavy trucking from other classes of street traffic and thus further tend toward the improvement of street traffic conditions.

Furthermore, the segregation of factories along the rail and water terminals and their consequent exclusion from the residence sections will improve living conditions throughout the city. A factory is usually a nuisance in a residence section. It is often directly injurious by reason of noise, odor, dust or smoke. It always brings heavy trucking with attendant noise and danger to the safety of the children, especially in crowded tenement districts. It often subjects the neighboring residents and property owners to increased risk from fire and explosion.

The problem of congestion of population is closely related to the location of trades and industries. Employees working long hours at low wages can afford neither the time nor the money to live far from their work. It has been shown that a very large proportion of such employees will live within walking distance of their work, even though this necessitates their living in the most congested and unwholesome quarters. While the proposed plan for residential and industrial districts will not cure existing conditions it will help to prevent an extension of such conditions. This is insured by providing adequate housing areas adjacent to the factory areas and preventing for the future the encroachment by the factories on areas required for housing.

While economic forces are quite effective in securing the segregation of industries of the heavier type close to the water and rail terminals, there are in New York City an unusually large proportion of industries that are not subject to this segregating influence. New York City is pre-eminent as a light manufacturing center. Of the 680,510 persons employed in industries in New York City in 1909, 422,769 were employed in the following light industries:

Artificial flowers, feathers and plumes	9,759
Boots and shoes	9,177
Boxes	9,414
Bread and bakery products	20,401
Buttons	3,635
Clothing, men's	77,543
Clothing, women's	110,567
Confectionery	7,641
Fancy articles	3,649
Fur goods	10,719
Furnishing goods, men's	8,051

Hair work	2,704
Hats and caps	5,815
Hosiery and knit goods	6,082
Jewelry	6,668
Millinery and lace goods	24,712
Patent medicines	5,450
Printing and publishing	74,118
Tobacco	26,664
	422,769

The above enumeration includes only the larger groups that may be classed as distinctly light manufacturing. Fully two-thirds of the industrial employees of the city are employed in industries that do not find direct connection with water and rail terminals a necessarily determining factor in the selection of a factory location. For these industries the questions of labor supply and market for goods are much more important. The New York Metropolitan District with a population of over 7,500,000 is itself the largest consumer of the output of its factories. Moreover, Manhattan is the great jobbing center for the entire country and this gives its manufacturers special advantages in the marketing of their goods. In addition the city has the largest and most varied labor supply. Being the principal port of entry for immigrants, it has an unlimited supply of the cheaper class of labor from which the employees of the clothing trades and various other light industries are recruited.

These light industries are scattered indiscriminately over the entire city throughout the business and residential sections. One good residence section after another has been progressively invaded and destroyed by the coming of the sporadic factory. This the proposed plan will prevent.

The great manufacturing section of Manhattan is not, as one might presuppose, along the waterfronts of the North and East Rivers, but lies in a narrow belt through the center of the Island from Canal Street to about 38th Street. The northward progress of the factory zone during the past sixteen years above 14th Street has been attended by tragic consequences. The city's chief hotel and retail center was invaded and substantially destroyed. It was compelled to move north to 34th Street and is now again in danger of destruction. The simple fact is that under New York City conditions, with high loft buildings and congested streets, the chief hotel, club, theater and shopping center cannot exist in close proximity to the factories. In the side streets along the lower portion of Fifth Avenue the number of employees is so great that the surrounding streets are necessarily congested with pedestrians during the hours when the workers are going to or returning from work. At the noon hour when the workers come out from the factories for a stroll along Fifth Avenue they monopolize the sidewalks to the exclusion or serious inconvenience of those having business on the avenue. An intensive factory use on the side streets is fatal to the

business use of the avenue. The sidewalk space is needed by the workmen and the roadway space is needed for the trucking incident to factory use. On the other hand, all the available roadway and sidewalk space would be unduly congested if reserved solely for business use. Two bodies cannot occupy the same space at the same time, and even if there were more space available it would be difficult to harmonize an intensive use of roadways and sidewalks for two such widely different purposes.

Traffic conditions are the crux of the situation. It is vital to the existence of the city that it maintain such conditions of street traffic that the city's chief hotel, club, theater and shopping center may permanently be maintained in the sole location that is suited for it. The plan proposed will protect the entire Fifth Avenue and Broadway section south as far as 23d Street and between Fourth Avenue and Sixth Avenue.

The exclusion of future factory lofts from the above section will also result to the economic advantage of the manufacturing industries concerned, to the welfare of the workers and to the relief of the city's congested transit facilities. The factories will be located on cheaper ground, nearer to rail and water terminals and nearer to an adequate labor supply. They can, if they find it desirable, maintain salesrooms in the restricted district. The workmen will be able in greater proportion to live within walking distance of their work. This will be a boon to the workers who walk, in that it will save them carfare and the necessity of spending about an hour and a quarter a day on the cars under conditions of overcrowding that are a menace to health, comfort and safety. And just to the extent that they do this will this condition of congestion be relieved for those who will still have to ride on transit lines during the rush hours.

Retail business naturally tends to segregate. The grouping of a few of the neighborhood stores and business buildings on the main avenue or thoroughfare creates the center that attracts other stores and makes that particular street the most desirable place in which to do business. In spite of this strong trend toward segregation, unless prevented by law, the occasional store will come into the midst of a residential community, to the detriment both of the residential section and of the natural local business street.

In residential neighborhoods the plan has been to preserve the side streets wherever possible for strictly residential use. The avenues along the ends of the block and main thoroughfares have usually been included in the business districts. The business use on the avenue is permitted to extend 100 feet back along the residential side streets. In the less developed sections it has often seemed feasible to indicate only every second or third avenue for business use and thus secure a larger and more self-contained residential area. This, it is believed, will improve living conditions and will conserve values on both the business and residence streets.

The amount of space needed for retail business purposes depends a

good deal on the economic condition and habits of the population. Generally speaking, the smaller the average income per family the larger the proportion that will be spent in the purely local stores. In the case of the very poor, practically the entire income is spent in the local stores. On the other hand, the well-to-do make a very large proportion of their purchases outside of the local area. The local retail section of a well-to-do neighborhood may be confined to a very limited variety of shops. Consequently, a tenement section requires a much larger allowance of retail business space than an elevator apartment section. It is believed, however, that even in the most crowded tenement sections, if business had been confined to the avenues along the ends of the blocks, sufficient business space would have been provided and living conditions in the side residential streets would have been very greatly improved. In an elevator apartment section a business street every second or third avenue is ample.

The protection of the home environment is vital to the welfare of the state. It needs no argument to demonstrate that a business or industrial street does not furnish the most favorable environment for a home.

Quiet is a prime requisite. The zone plan, by keeping business and industrial buildings out of the residential streets, will decrease the street traffic in the residential sections and thus reduce to a minimum noise incident to street traffic. Aside from the increased vehicular traffic the business and industrial uses disturb the quiet and peace of the residential street by the crowds of employees and others incident to a business or industrial use. The above evils are present even though the business or industry is in itself entirely unobjectionable from the standpoint of noise. Dr. Gustav F. Boehme testified that business and industrial uses on a residential street and the noise and confusion incident thereto made such streets much less healthful and desirable for residence purposes. He said that such conditions tended to produce and intensify all kinds of nervous disorders.

The efficient cleaning of the streets and the collection of refuse are of great importance to the health and welfare of the city. The segregation of uses will make it possible to adopt more efficient and economical methods for each particular street or section. It is recognized that for sanitary reasons a residential street should be kept cleaner than a business or industrial street. If, however, there is a mixed occupancy, residential, business and industrial, the traffic, trade wastes and litter incident to business and industrial use may make it physically or economically impossible to keep the street in the good sanitary condition demanded for residential use. John T. Fetherston, Commissioner of Street Cleaning, testified on this point as follows:

"It is well known that where different public conditions exist in any particular locality, it is impossible to adopt a single uniform system for cleaning streets as well as collecting refuse in that locality. On the other hand, where the district is of a mixed type, involving industry, manufacturing, as well as a residential section, it is not possible to plan the most economical system of street cleaning and refuse collec-

tion, because conditions will differ in various parts of such intermixed districts. I would say, in general, that the development of the zone system, involving an orderly development of building zones, should ultimately tend to economy in the cleaning of streets and in the collection of refuse, as well as providing a plan and a system which will meet particular conditions of each district or section dependent upon the uses to which the section or district is put. The demand for sanitation varies with the type of building occupants. A residential street requires at least a higher standard of street conditions than would a business or a mixed type of street, and a great many complaints come to the Street Cleaning Department from streets where mixed business and residential occupancy is in force. If stores could be segregated, plans in that connection could be adapted to that particular type of street, whereas, if conditions are mixed, you can only compromise.

"There are some streets in lower Manhattan where it is hardly possible to clean the streets during the day time on account of the procession of vehicles which prevents the cleaners from collecting the street dirt. On that type of street the same sanitary conditions cannot be maintained as would be required in a residential street. In that respect traffic conditions in a residential locality also adversely affect the street because there may be a residential street which connects with a traffic street, and it is not possible to keep that residential street in as good a condition as other similar streets in the same locality, because the men cannot work advantageously while traffic occupies the street. Even in the case of mixed occupancy of a particular block, residence, business and factory use, the factories and business places in that particular block tend to bring heavy traffic into the block and make it difficult to keep it in the best sanitary condition."

In a residential street the number of street accidents, chiefly to children, varies directly with the vehicular traffic. Stores, garages, factories and other business buildings increase the amount of vehicular traffic. Most side streets that have no business or industrial buildings have little traffic. Very often a single business building in the midst of a residential block will so increase traffic as greatly to increase the number of street accidents. This will be particularly true if it is a congested tenement district. Here the streets swarm with children. They must have some place to play and unfortunately there is no place but the street. A very large proportion of street accidents occur to children while playing in the streets in front of their homes. The zone plan will, as to the future, segregate the business and industrial buildings from the residential streets and thus tend to reduce the enormous toll of street accidents.

In the crowded tenement districts having stores on the ground floor, the roadways are congested with vehicular traffic and push carts and the sidewalks with business encroachments and pedestrians. There is absolutely no place for the child to exercise natural play instincts. Play is as necessary to the child as food and clothing. It is this thwarting of the boy's craving for play that leads to a large proportion of the juvenile delinquency cases that come before the Children's Courts. Ernest M. Coulter, for ten years clerk of the Children's Court, testified he had found by investigation that this thwarting of the play instinct was responsible for at least 40 per cent. of the delinquency cases. While the population of the city is largely

recruited from the country, the city's criminal population is largely bred right within its own congested centers.

The moral influences surrounding the homes are of the greatest importance. The sordid atmosphere of the ordinary business street is not a favorable environment in which to rear children. Immediate and continual proximity to the moving picture show, dance hall, pool room, cigar store, saloon, candy store and other institutions for the creation and satisfaction of appetites and habits is not good for the moral development of the child. Influences and temptations resulting from the proximity of such business to the homes may affect seriously the morals of the youth of the community. Under such conditions it is difficult to cultivate the ideals of life that are essential to the preservation of our civilization.

Rowland Haynes, an expert on recreation facilities and secretary of the Committee on Recreation of the Board of Estimate, testified to the practical impossibility of providing enough playgrounds for the children in the crowded tenement sections and to the relief to this situation that the districting plan will afford by creating residential districts from which business and industry will be excluded and which can therefore be used as temporary play spaces. Mr. Haynes said:

"The advantage to the whole recreation problem lies in having reserved residence streets. By having streets reserved for residence purposes it is going to be possible, since the delivery traffic in such streets will be comparatively light, to use some of them for temporary play places, as was done by the Police Department in about 25 locations last summer. The only thing I wish to emphasize is the urgency and importance of such possibilities which are opened up by the action of your Commission.

"In the first place, we have to realize that through some studies which we had previously made we have found that wherever the density of population exceeds 37½ per acre, about 80 per cent., in fact, somewhat over 80 per cent. of the children have to play away from home, either because there is no place in their own back yards or because that space is so small that they have no chance to play any of the larger space games. Out of the 54 wards in Manhattan and Brooklyn, all but seven exceed that density. If we take the city as a whole, including all of the boroughs, we find that 84 per cent. of the population of New York lives in districts where the density exceeds this figure of 37.5 per acre. Some neighborhoods in New York go up to 18 times that density. If we take 84 per cent. of the whole number of children in this city between 5 and 15 years of age as the number living in these more densely populated districts, and if we then take 80 per cent. of this 84 per cent. as the number who will have to play away from home, we find about 680,000 children in New York City who have got to play away from home. The average daily attendance last summer at all the playgrounds in New York City was less than one-third of 680,000. This includes the average daily attendance at park playgrounds, school playgrounds and playgrounds conducted by settlements and other philanthropic agencies. In other words, all the public and private agencies which we now have are reaching only about one-third of the child population who must play away from home. Seventy-five per cent. of these playgrounds close after the summer season. This means that larger opportunities for play are urgently needed. To purchase enough additional places to reach the remaining two-thirds of the children who must play away from home would bankrupt the city. Hence we must use more intensively the land that the city already owns. Hence the method which was introduced last summer by the Police Commissioner of using

streets reserved for play for certain hours in the day in certain districts, it seems to me, must for some time to come be extended. My only purpose in accepting the invitation of your Commission to speak thus briefly is to point out that, while this plan of use districts is worked out for a different purpose, it is going to be of very genuine and fundamental value to conditions which we don't like but which we have got to face in the playground and recreation situation here in New York.

"The restricting of residential streets against factories and against stores and against public garages make those streets better for play use, first, because it reduces the amount of traffic into those streets. It makes the traffic into those streets simply delivery traffic for household necessities, which is much less than any through traffic or traffic to garages, or delivery traffic to and from stores. It reduces the amount of traffic and thus makes the burden of reserving a street for play purposes much less. In the second place it makes possible the reservation for play purposes of residence streets which are near those on which the children are living. In short, it makes possible the reservation of play streets without burden to traffic and near where they are needed."

Fire insurance rates recognize the distinctly greater risk of the tenement with stores on the ground floor as compared with the tenement without stores. Increased fire risk for the tenement with stores must necessarily mean increased fire risk for all neighboring buildings. The menace to neighboring residential buildings in the case of an ordinary store is multiplied in the case of a theater, garage, warehouse or factory. Even where in the case of a tenement with a store on the ground floor the firemen succeed in preventing the fire from spreading to the tenements above, it may cause serious loss of life from smoke or panic. Chief Kenlon testified to the desirability from the standpoint of fire prevention and safety of providing for the establishment of residence districts from which stores would be excluded. Edward R. Hardy, assistant manager, New York Fire Insurance Exchange, produced statistics and evidence of the increased fire risk to tenements having stores on the ground floor. Mr. Hardy said: "The rate of insurance in a store and dwelling building reflects greater insurance risks. The ordinary private dwelling, now accepted as a building occupied by not more than two families, if it changes its character so that the first floor or basement is occupied for a store, with one family above, the insurance rate is about twice as much as when it was occupied wholly for dwelling purposes. This is due to the fact that the store brings always an unknown quantity of waste material, poor protection to stoves, gas lights, care of ashes and ordinary accumulations—the risk is about two to one. Even if special precautions are provided to prevent the spread of fire from the business building to the tenement above there is great danger, especially on the ground of safety to the occupants of the tenement. The proposition frequently advanced that the first floor is so protected that there shall be no communication when there is a store in the basement with the floors above, overlooks the fact that in a fire the smoke will always seek any exit available. It will ascend naturally if there is a way. If not, it will pour out of the doors and windows and follow up the side of the building

and enter the living floors in that way. Some of the most serious panics have been due not to fire, but purely to the smoke condition."

That the invasion of the residential street by trade and industry is generally recognized as a serious evil by the residents themselves, has been conclusively demonstrated by experience. With the coming of trade and industry those residents who can afford to do so leave the street, rents fall and the lending institutions call their loans. The combination of reduced rents and higher interest rates leads to many foreclosures and places most owners in such a precarious financial position that they are unable to make needed repairs and improvements. It becomes difficult or impossible for the city authorities to enforce even minimum standards of public health and safety.

CHAPTER IV—APPROPRIATE INTENSITY OF THE USE OF LAND

For city building it is not alone necessary that there shall be a plan that will segregate buildings according to use, but it is also necessary that there shall be a segregation according to intensity of building development. This is essential in order to secure to each section of the city as much light, air, safety from fire and relief from congestion, with all its attendant evils, as is consistent with the most beneficial use of the land. Intensity of use should be so regulated that assuming that the entire section should be built up uniformly with buildings of the maximum height and extent allowed the section as a whole would be appropriately improved.

The maximum beneficial use of any given block or area is dependent on a certain measure of uniformity in its development as regards height, yards and open spaces. Such use would, in general, be enhanced if the property owners could enter into an agreement uniformly restricting the height of buildings and fixing the minimum area of courts and yards. The size of courts and yards is in most cases of as much benefit to a man's neighbors as to himself. It is therefore appropriate that each should contribute in substantial equality to the common stock of light and air. There can be no maintenance of healthful conditions of light and air and no stability of values if each individual owner is at liberty to build to any height and over any proportion of his lot without regard to his appropriate and reasonable contribution to the light and air of the block.

The speculative builder puts up the first high building in a block. The windows are on property lines or on narrow courts. Perhaps a five-foot rear yard is provided. But with all the free space on the adjacent lots the building is light and airy, is attractive to tenants and shows a good return to the purchaser. Other buildings follow and their builders see no reason why they should keep down lower or provide larger yards or courts than the first. The result is tragic from either a private or a public point of view.

All this has been conclusively demonstrated by costly experience in the recent history of the office and loft building sections of Manhattan. Whole areas have been built up piecemeal with towering buildings having inadequate courts and yards without much thought of ultimate consequences. Such areas are in process of being smothered by their own growth. The streets are inadequate to handle the traffic induced by the multiplication of floor area to be served and the buildings constructed without reference to the width of the streets, yards and courts on which they abut shut out light and air essential to health and to rental on a basis that will permit of a reasonable return on the investment.

The social and economic desirability of limited height and minimum court and yard provisions has been clearly established by apartment house

construction under the Tenement House Law. Had similar regulations been applied to the office and loft buildings, great loss would have been prevented. All agree that the Tenement House Law accomplished a most desirable reform in the interest both of owners and tenants in establishing regulations as to height, area covered, yards and courts. In exclusively residential blocks in certain of the more intensively developed sections light and air conditions have been standardized and property values stabilized by ensuring that each owner shall make a reasonable contribution to the light and air of the block.

Only by a complete districting plan can the mutually advantageous principle contained in the Tenement House Law be applied to all kinds of buildings, in all parts of the city. There must first be a partial segregation of buildings according to use, and second, a gradation of height, court and yard provisions, particularly as affecting residential buildings, in accordance with the present and prospective intensity of use in the various sections of the city.

The intensity of building development appropriate for each district is dependent on the character of occupation and use in that particular district. Certain trades and industries require structures of unusual size and shape. A comparatively high degree of concentration is important for the facilitation of business in an office district. The demand for housing varies with the differing tastes and necessities of the inhabitants of the city. There is a demand and a need for single-family dwellings, as well as for hotels and apartment houses.

In building a city it is sometimes assumed that we should start with a certain model type of residence and seek to make that type universal. If a density of not exceeding eight families to the acre is desirable, building regulations should be devised to prevent a greater density. The problem is not so simple. The problem of housing accommodations and desirable densities cannot be profitably considered without reference to a particular city, with a known topographic, transit, commercial and social organization and an assumed probable rate of increase in population. We cannot annihilate time and space, and as long as these factors are appreciable the problem of the appropriate intensity of the use of land must always remain relative. There can be no absolute standard.

Most men in choosing a home in a large city must weigh various divergent considerations and strike the balance that gives a maximum of satisfaction. They have to sacrifice a desire for open space and isolation in order to save time and money and avoid great personal inconvenience. Many families prefer Manhattan apartments for social reasons or because of proximity in time and space to clubs, hotels and theatres, or because of nearness to place of business or work. In choosing a home the business man who works from 10 A. M. to 7 P. M. at his office, and the laborer who works in a Manhattan factory from 7 A. M. to 6 P. M. are both likely

to sacrifice the numerous advantages of a suburban villa for the convenience of a Manhattan apartment or flat.

That considerable areas near the heart of the city should be very intensively used for tenements and apartments is natural and probably inevitable. The demand for housing is naturally greatest in the most favorable locations. Were it not for the ability to multiply housing area by placing one dwelling on top of another, rents would be prohibitive in these favored locations for practically all those who now occupy apartments or flats. It is natural that the intensity of the demand for housing should vary in the different parts of a given city, the general tendency being, starting with the highest intensity of demand near the center, for this demand to fall rapidly toward the periphery of the city.

Beyond the central zone of the more intensive housing, the provision of light, air and open space, may be rapidly increased. Radiating from the common business center, the amount of land available for development rapidly increases. When it is necessary to use a rapid transit line to get to the business center a few minutes more or less on the train is unimportant. Beyond this central housing zone, therefore, regulations requiring much more adequate courts, yards and open spaces, may properly be required.

The assumption that an individual owner in a city should have unlimited liberty to cover his entire lot to any height is incompatible either with the interest of owners generally or with that of the public. It is not possible to secure the light and air that is essential both to the profitable use of land and to the health and comfort of the public unless the height and area covered by buildings is limited. As Professor Whipple has well stated: "While in general rights in the use of land are bounded by vertical planes, it must not be forgotten that the sun's rays fall slantingly upon the land while the wind movements are chiefly horizontal. These natural elements are interfered with by excessively high and crowded buildings, hence there are rights in land ownership which extend beyond the vertical planes." In a memorandum submitted to the Commission, Professor Whipple discusses the importance of light and air in part as follows:

"Considered from the standpoint of light the sun's rays profoundly affect the lighting of rooms. This is a matter of common knowledge, but quantitative relations have been shown by many photometer tests made at points located at different distances from windows, and by similar tests made at the windows of different stories in tall buildings the exterior lighting of which is influenced by adjoining buildings. Sunlight likewise causes movements of the air. This is due to unequal heating in different places. The air currents thus set up are gentle and desirable. Places which never receive the sunlight are more likely than others to contain stagnant air. The sun's rays have a marked disinfecting action and prevent the growth of molds and fungi, thereby eliminating odors of certain kinds. They also destroy bacterial life, whether the bacteria are floating in the air or are attached to the exposed surfaces of pavements, floors or walls. To the extent to which this occurs the danger of infection from

certain disease germs is lessened. Sunlight has both a physiological and psychological influence on human beings.

"By daylight is meant the indirect lighting from the sun, that is, lighting received from the sky or clouds and reflected from various surfaces. While it is possible for human beings to exist without direct sunlight and even without daylight, it is the experience of the race that both sunlight and daylight in sufficent amounts are highly desirable. Daylight is necessary not only for health and comfort but for economic reasons. Too little light causes eye-strain with its train of physiological disturbances, and decreases the productiveness of work. It unfavorably influences the mental condition. Light promotes cheerfulness, while gloomy rooms depress vitality. Lack of daylight limits the length of the working day in some industries and increases the amount of artificial light required. Artificial lighting with oil or gas tends to vitiate the air by increasing the carbonic acid and moisture, and even by increasing the poisonous carbonic oxide. Artificial lighting also increases fire risks. Lack of exterior lighting increases the amount of window space required and this in turn increases the heat loss in buildings in winter. In these and other ways insufficent lighting not only results in inconvenience to human beings but may be a positive menace to the health, safety and morals of the people. The amount of daylight received in buildings is greatly affected by adjoining buildings, by their positions, their height, and by the character of their walls, both in color and material.

"The necessity of adequate ventilation need not be argued but it is not as fully realized as it should be that the air which enters a building, both in amount and quality, is influenced by the surrounding buildings. If buildings are too close together there is likely to be a stagnation of the air between them. The ventilation of streets, alleys, courts and interior spaces between buildings is as much a matter of public importance. Street ventilation is influenced not only by the orientation of the streets and the prevailing wind movements, but by the height, size, shape and character of buildings, and their distances apart. In cavernous streets there are excessive air currents near the ground, and at times great air movements, especially objectionable in winter. On the other hand, at times of gentle air movements there may be no currents at all near the streets and pavements between high buildings because the friction of the air passing through the narrow channels prevents them. In other words, narrow streets lined with high buildings tend to produce extreme conditions of air movement and both extremes are objectionable. In regulating the size and height of buildings with reference to the streets the city is to a considerable extent controlling street ventilation and the ventilation of courts and interior spaces, and thus indirectly, the ventilation of indoor quarters.

"Quite as important as the volume of the air taken into buildings is its cleanliness. One of the difficulties in cities is to obtain proper air inlets for ventilation systems. The amount of smoke and dust, foul odors on the streets, bad smells from buildings, from passing vehicles, from exposed refuse and from other sources are matters properly subject to the control of the health department but the concentration of dust and smoke and foul odors is greatly influenced by street ventilation. The regulation of buildings is a regulation of the amount of dilution of colors and is therefore a public health factor."

Exposure to a vitiated atmosphere, especially if it is of long duration, tends to break down the individual's power to resist disease. The susceptibility to respiratory affections, tuberculosis, pneumonia and colds, is particularly increased. In the treatment of disease pure air is of the greatest curative value. The importance of direct sunlight on health is hard to over-estimate. It serves as a beneficial stimulent to the nervous system. In

the destruction of bacteria it is better than many artificial disinfectants. An increased supply of sunshine in an apartment means decreased dampness. The highest medical authorities all agree that the action of the sun's rays upon air is prophylactic, rendering the environment more healthy. Good natural light and ventilation alone are not enough, direct sunlight is also important.

Light and air are so important that their provision should be required in every section of the city up to that point at which their benefits as to that particular section tend to be outweighed by other needs and requirements of city life. Under New York City conditions the upper limit would probably be the single detached house on a forty or fifty-foot lot with ample open spaces about it. This the proposed E district regulations would in large measure secure. At the other extreme the minimum provision of light and air assuredly should not be less than that required by the present Tenement House Law. For large areas in New York City neither of the above extremes furnishes an appropriate standard. The one and one-half and one times height districts and the C and D area districts will supply the demand and need for light and air standards between these two extremes.

From the point of view of public advantage the distribution of population is very important. Most of the evils of city life come from congestion of population. In precisely the measure that the city's population can be distributed will those evils be mitigated. As the number of families housed per 50-foot lot increases:

(1) The provision of light and air, so essential to health, vitality and comfort decreases.

(2) The opportunities for personal contact and thus for the spread of communicable disease increase.

(3) Noise and confusion incident to increased street traffic increases.

(4) Each family suffers more and more from the noises from neighboring families.

(5) Privacy is diminished.

(6) The children have less and less opportunity for outdoor play.

(7) The danger from fire, both to life and property, is increased.

(8) The transit lines become more and more congested during the rush hours.

It is therefore essential in the interest of the public health, safety, comfort, convenience and general welfare that a housing plan be adopted that will tend to distribute the population and secure to each section as much light, air and relief from congestion as is consistent with the housing of the entire population for a considerable period of years within the areas accessible and appropriate for housing purposes.

In order to provide the people of the city with the kinds of homes that they desire, are willing to pay for and that will bring the maximum advantage from the point of view of public health and safety, it is absolutely necessary to district the city in such a way as to encourage and conserve particular types of building in particular sections.

The control of the intensity of use of land cannot safely be left to economic forces. Unless for each section standards of height and area covered are fixed, the tendency will be to build up solidly to the extent permitted by the Tenement House Law. The real demand for single family houses and for multi-family houses with adequate yards and open spaces will not be supplied because builders and investors have learned that such developments are in danger of being ruined by the erection of a few neighboring buildings of a different and more intensive type.

Tenants move away from the congested centers in order to secure better light and air. But if after a few years the bright, sunny building to which they have moved becomes surrounded by buildings similar in height, yard and court provisions to the building in the congested center in which they were formerly located, the desirability of the new location for this class of tenants disappears and rentable values are likely to be seriously impaired. A proper districting plan will insure that wherever probable intensity of demand will permit, a certain measure of the improved light and air conditions that have attracted tenants to the new location shall be permanently retained.

Private developers in suburban residence districts have found that in order to attract purchasers it is necessary to place uniform restrictions on the land against improvement by multi-family dwellings. The surroundings and neighborhood are all-important in securing desirable home conditions. Unless the private residential character of the section is fixed for a considerable number of years no one can afford to build a home. This method of private restriction frequently fails either because the territory covered is not sufficiently inclusive or because the restriction is limited to a short term of years. In recent years the development of detached house sections has been greatly retarded by the fate of many such sections where by the coming of a few apartment houses the entire section has been destroyed for private house purposes. Often in such sections the apartment house is a mere parasite. There would be no economic reason for its construction were it not for the open spaces and attractive surroundings created by the private dwelling character of the neighborhood.

Many men and women would be unable to stand the strain of city life were it not possible for them to live in the more quiet, less densely populated sections. A detached house with yard and garden has kept some from breaking down under the nervous strain and has contributed to the efficiency and vitality of many others.

It is important from the standpoint of citizenship as well as from that of health, safety and comfort, that sections be set aside where a man can own his home and have a little open space about it. It makes a man take a keener interest in his neighborhood and city. It has undoubted advantages in the rearing of future citizens. The setting aside of sections for this detached dwelling type is necessary in order to retain within the city many citizens who would otherwise move to the suburbs. The retention

of the citizenship of a greater proportion of this class of its business men is of great importance, not only as regards the city's taxable values, but also as regards civic interest and civic leadership.

CHAPTER V—HEIGHT DISTRICTS

The districting resolution herewith submitted, together with the accompanying height district maps, provide for five classes of height districts limiting the height of the building at the street line to a varying multiple of the street width. The districts named in accordance with the multiple applied are: one times districts, one and one-quarter times districts, one and one-half times districts, two times districts and two and one-half times districts.

In limiting the height of all buildings in relation to the width of the streets on which they abut, the Commission has adopted a principle which for a great many years (since 1885) has been applied to tenement house construction in New York City. The Tenement House Law limits the height of tenement houses throughout the city to one and one-half times the street width. It has also been extensively applied in European cities. This rule has evident advantages over a flat limitation that operates without regard to the width of the street. A height limit based on street width is seen to have a direct relation to street congestion and to light and air conditions.

The Commission has modified the strict application of the multiple of street width rule by providing that for the purpose of computing the limiting height on the multiple of street width basis a street less than 50 feet wide shall be considered to be 50 feet wide, and a street more than 100 feet wide shall be considered to be but 100 feet wide. In other words, the multiple of street width rule is not applied to very narrow streets, nor is it applied to streets of more than a prescribed width. There is for each district a minimum height that will be permitted and a maximum height that may not be exceeded, regardless of the width of the street. This modification is customary in building height regulations based in general upon street width. It is clear that a general multiple if applied to all narrow streets in the business center might seriously interfere with an appropriate and reasonable use of the land. On the other hand if the general street width multiple were applied without limit to very wide streets and open spaces, it would result in an excessive and inappropriate height for a few buildings that would be a serious injury to the light of the neighbors on the sides and in the rear. Moreover, in the interest of safety in case of fire and of the prevention of street congestion in the side streets, it is appropriate that a maximum height at the street line be established for each district.

The multiple of street width rule limits the height of a building at the street line only. Above such height limit at the street line, the building may be carried higher by means of mansards or vertical walls provided such extended portion is set back in a prescribed ratio. In the one times district the setback rule is one foot horizontally for each two feet of height above

the prescribed height limit at the street line. Similarly in the one and one-quarter times district the setback rule is one to two and one-half; in the one and one-half times district 1 to 3; in the two times district 1 to 4 and in the two and one-half times district 1 to 5. This secures, except for streets less than 50 feet or more than 100 feet in width, a constant ratio between the height of the street wall at any point and its distance from the center of the street at such height. In other words, no part of the building may be carried above a plane formed by the intersection of a horizontal line through the center of the street and a line at right angles thereto drawn through the limiting height at the street line. This will permit greater freedom of building construction than a flat limitation of height and at the same time will preserve a uniform angle of light down into the center of the street. (See Figures 10 and 11.)

At the intersection of a narrower with a wider street the height limit on the wider street governs for 100 feet back on the narrower street if such narrower street is not more than 60 feet wide (see Figure 13). For each one foot by which such narrower street exceeds 60 feet the influence of the height limit on the wider street extends one and one-half feet further back on the narrower street. Thus, if the narrower street is 80 feet wide the height limit of the wider street will extend back 130 feet on such 80-foot street. This will apply to all buildings within the 130-foot stretch whether they front on the wider or the narrower street. The distance back on the side street that the height limit of the wider street should go depends on light conditions on the narrower street as influenced by its intersection with the wider street and by the width of such narrower street as compared with that of the wider street. Both of these factors are taken into consideration in the rule applied.

As an exception to the general height and setback rule special regulations are provided for dormers and towers. Above the height limit on the street line dormers and head-houses may, with the approval of the building superintendent, be erected on the street line provided their aggregate frontage length on the street line be not greater than 60 per cent. of the street frontage and provided that such percentage shall be reduced by one for every foot of height above the height limit on the street line. This will permit the erection of one large dormer or a number of small dormers in a mansard above the height limit on the street line. On a 100-foot frontage this will mean that the dormer on the street line at the height limit can be 60 feet wide; but at a height of 10 feet above the height limit the dormer can be only 50 feet wide; at 20 feet, 40 feet wide and so on until at 60 feet of height the width of the dormer is reduced to a point. (See Figure 14.) It is also provided that the percentage of the total frontage to be devoted to dormers may be increased by one for each four inches that such dormers are set back from the street line. On a 100-foot frontage this will permit a dormer set back 5 feet from the street line to occupy 75 feet at its base and to come to a point 75 feet above the height limit at the street

line. This rule will weave in with the general set-back provisions and whichever are less drastic in any particular case will govern.

If the area of a building is reduced so that above a certain level it covers only 25 per cent. of the area of the lot, a street wall above such level may be carried to any height provided it is distant 75 feet from the center of the street; but for every one per cent. of its full possible length that such street wall is decreased, it may come 4 inches nearer to the center of the street. This will permit a building on an interior lot facing a street or open space of 150 feet or more in width to build a tower across the whole front of the building provided it does not cover more than 25 per cent. of the lot. Similarly on a street 100 feet wide a tower can be built across the whole front of the building provided it sets back 25 feet from the street line. Or if a building has a 200-foot frontage on a 100-foot street, a tower with a 50-foot frontage can be built on the street line. If a building is on a corner each street wall of the tower is governed by the width of the street on which it faces. A tower on the corner of a 150-foot street and a 60-foot street would have to set back 45 feet from the 60-foot street line. If, however, the tower frontage on the 60-foot street were only one-quarter of the total building frontage on such street the tower could be erected within 20 feet of the street line. This exception in favor of towers applies to street walls only and other walls of the tower must conform to the general yard and court provisions wherever applicable. (See Figures 16-21.)

Where a building would be pocketed between buildings in excess of the prescribed height within 50 feet on either side or directly across the street, its height may be increased by the average excess height of such surrounding buildings. This will permit a building thus pocketed to secure a fair portion of the light and air that would otherwise be monopolized by the buildings already erected. (See Figures 22, 23.)

The only district in which a height of two and one-half times the street width is proposed is in the office and financial section in lower Manhattan. A height of two times the street width is allowed for the remaining portions of the more intensively developed commercial and industrial sections in a broad belt through the center of the Island from the lower office and financial section to 59th Street. An exception is made for a portion of the Fifth Avenue section where limits of one and one-quarter and one and one-half times the street width are proposed. A height of two times the street width is also allowed for a narrow belt along a large portion of the waterfront of Manhattan and along the East River waterfront of Brooklyn, Queens and The Bronx; also for a small area around the chief office and business center of Brooklyn. In the two-times districts on a 60-foot street the building can go up to 120 feet or about 10 stories at the street line and above that height by setting back 12 feet can go 4 stories higher. On a 100-foot street the building can go up 200 feet, or about 16 stories at the street line, and above that height with a 12-foot set back can go 4 stories higher.

The high building problem in lower Manhattan was carefully studied by the Heights of Buildings Commission. The existing conditions and the reasons for limitation are stated by that Commission in part as follows:

"The high building problem is at present confined chiefly to a comparatively small portion of the lower half of the island of Manhattan. The average building height in the Borough of Manhattan is 4.8 stories. Ninety per cent. of the buildings do not exceed a height of 6 stories. The buildings over 10 stories in height constitute only a little over one per cent. of the total. Out of a total of 92,749 buildings, there are but 1048 buildings over 10 stories in height; 90 buildings over 17 stories; 51 buildings over 20 stories, and only 9 buildings over 30 stories.

"The Building Code requires that all buildings over 150 feet in height be thoroughly fireproof. The buildings themselves cannot burn because there is nothing combustible in their construction. All high buildings are equipped with standpipes and ample tanks at various levels and many of them with automatic sprinklers. Doors and windows between rooms and between rooms and corridors are fireproof so that fire can be confined to a single room. There are many interesting examples of such fires.

"The fact remains, however, that tall buildings are not necessarily safe. The rooms are often filled with highly inflammable material. Unless doors are closed, fire may easily spread to other rooms. The draft up the chimney-like elevator wells may pull the flames across the corridor, and the flames, fed by the grease on the elevator guides, may be carried to upper floors. Under such conditions the danger of panic among the employees of the building would be very real, and the higher the building the greater the danger.

"The fire department cannot fight a fire from the outside more than 85 to 100 feet above the ground. Above that they must rely on the standpipes in the building. If the standpipe does not work, or if the fire is so near the standpipe as to render its use impracticable, the fire department becomes helpless. No fatal fire in a modern high building has yet occurred, but it is not an impossibility.

"In case of general panic or catastrophe causing the occupants of all offices in all buildings in the high building district to seek the streets at once, a serious situation would present itself. It would be impossible for all the occupants of all the buildings abutting on certain streets to move in the street at one time, even though the street were cleared of all other traffic, pedestrian, vehicular and surface car, and absolutely free from all obstructions so that the entire width of the street might be used. The minimum space required by a crowd moving in one direction is five square feet per person. Computed in this manner, Broadway could hold but 96.3 per cent. of its

occupants; Trinity Place and Church Street 86.6 per cent.; Nassau Street 69.3 per cent.; New Street 44.5 per cent., and Exchange Place only 37.5 per cent. This being the situation to-day, the question arises as to what might happen in case of a general panic should the entire district be solidly built up with buildings of the present extreme heights.

"In areas where high buildings are crowded together most of the rooms even on the street front are inadequately lighted and many are decidedly dark. On New Street and Exchange Place, where the office buildings range from 10 to 22 stories high, on a bright sunny day at noon in midsummer it was found that in almost all of the street rooms artificial light was being used next to the windows. The conditions in the interior courts in parts of the tall building district are even worse.

"Even with modern artificial lighting of the most approved type, the dark offices have caused a great deal of eye strain. Nothing but adequate natural light seems to prevent it. Tuberculosis experts testified to the Commission that they had found many cases of tuberculosis directly traceable to working in dark offices. A noticeable increase in sick leave has been found among the employees of firms that have moved from light to dark offices.

"A number of streets in the high building district are already so congested that pedestrian and vehicular traffic is greatly impeded. Assuming that pedestrians will use sidewalk space only and will move in one direction only, there is room on Trinity Place and Church Street for but 56 per cent. of the occupants of the buildings located on those streets; on Broadway, 50 per cent.; on Nassau Street, 32 per cent., and on New Street, but 19 per cent. If these same streets should be uniformly built up to an average height of 30 stories, the above percentages would be reduced to 26 per cent. on Broadway; 20 per cent. on Trinity Place and Church Street; 11.9 per cent. on Nassau Street; 8.9 per cent. on New Street, and 8.4 per cent. on Exchange Place. It is quite clear that under such conditions the street capacity would be entirely inadequate to take care of the morning, afternoon and noon hour crowds."

Chief Engineer Lewis in his testimony before the Commission spoke of the possible fatal consequences from panic in congested lower Manhattan. Mr. Lewis said: "It is obvious to anyone that in certain portions of the city, notably in lower Manhattan, the enormous day population of the office buildings, most of whom come to their work in the morning and leave in the afternoon within a very limited time, now overtaxes the public streets and, while we are reasonably free from earthquake shocks, or even tremors, you will recall that in 1884 and again in 1886 there were violent vibrations which caused a very panicky feeling. You may remember the explosion in

the Tarrant Building, perhaps twenty years ago, which created a great panic in the neighborhood. It is easy to see what would happen if, in the office building district down town, a violent explosion or earthquake tremor were to occur, which would result in a mad rush from office buildings to the streets. The panic in the streets would be almost inconceivable, and would, under existing conditions, be about as serious and fatal in its results as those which occur when people try to leave a theatre in case of an alarm of fire."

Tenement and apartment houses throughout the city are now limited to a height of 1½ times the street width. The proposed plan takes the 1½-times rule of the Tenement House Law and applies it to substantially all the residential portions of the city that are now intensively built up and to all the commercial, industrial and waterfront sections not included in the 2½ or 2 times rule and where a somewhat intensive future development is anticipated. (See Figure 12.)

Other residential sections where a fairly intensive apartment house development seems not inappropriate, are placed in the 1¼-times district. This will permit a 6-story elevator apartment on the ordinary 60-foot street and a 10-story apartment on a 100-foot street. By taking advantage of the set-back provisions, two or more stories of additional height may be secured. Under the 1½-times rule of the Tenement House Law 9-story apartments are now built in certain sections of Manhattan on the 60-foot streets. The 1¼ districts will prevent the development of this type, and this will be a distinct gain from the point of view of better light and air and the distribution of population.

All other portions of the city, including those in which a 2, 3, 4 or 5 story development seems appropriate, are placed in the one-times district. This will permit of a 5-story building on a 60-foot street and an 8 or 9 story building on a 100-foot street. By taking advantage of the set-back provisions, one or more stories of additional height may be secured.

CHAPTER VI—AREA DISTRICTS

The districting resolution herewith submitted, together with the accompanying area district maps provide for five classes of area districts, A, B, C, D and E, with varying regulations as to size of yards, courts and other open spaces.

Except in A districts, any building that is back to back with the rear of another property and is more than 55 feet back from the nearest street must have a rear yard. The requirement for a rear yard is reciprocal. No building is required to have a rear yard unless a similar obligation could be imposed with respect to any building hereafter erected on the plot immediately behind such yard. The 55-foot exemption is inserted on the assumption that a building running back but 55 feet from the street can be lighted in its most used parts directly from the street. A corner building is seldom back to back with the rear portion of another building and consequently would seldom require a rear yard. (See Figure 34.) If, however, a building runs through the middle of a block from street to street and between lots for which rear yards are required it will be required to leave uncovered in some part of its extent courts equivalent in size to the space that its neighbors are required to devote to rear yards. (See Figure 36.) The depth of the rear yard at its lowest level must be at least 10 per cent. of the depth of the lot, but need not in any case exceed 10 feet at such level. For any building not within a residence district the rear yard may start from a level 18 feet above the curb. This permits all buildings in the business, unrestricted and undetermined districts to cover the entire lot for the first floor. For any building in a residence district the rear yard must start from the curb level, except that the usual one-story accessory buildings may cover 40 per cent. of the prescribed area of the yard.

In addition to the percentage requirement as to the depth of the yard at its lowest level, the yard must increase in depth with the height of the yard being not less than one inch, two inches, three inches, four inches or five inches in depth for each one foot of its height, according as it is located in the A, B, C, D or E district. The increased depth of yard required as the building increases in height may be secured by stepping back at each story or at each two, three, five or more stories. The purpose of the regulation is to preserve a reasonable angle of light for the lighting of the lower windows.

In every building hereafter constructed in which a room in which persons live, sleep or work receives its light and air in whole or in part from a court or yard, at least one court or yard having a window opening from such room shall be of the size prescribed for a required court. The least horizontal dimension of a required court shall be not less than four feet. The court must increase in width with the height of its enclosing walls, being not less than one inch in least dimension for one foot of height, in

an A or B district, one and one-half inches in a C district, two inches in a D district and two and one-half inches in an E district. This gives an outer court with a least dimension at any height just one-half as great as that for a required yard at the same height. The area of an inner court at any height must be not less than the square of the depth of a required yard at such height. The length of such required inner court for its minimum area may not be more than twice its width. (See Fig. 38). The width of an outer court besides being governed by the height of such court is also governed by the length of the court. An outer court gets its light and air both from above and from the end of such court opening on the yard or street. It is appropriate therefore that the width of the outer court should bear some relation to its length. An outer court accordingly must increase in width with the length of such court being not less than one inch in least dimension for each foot of length from the closed end in an A district, one and one-half inches in a B or C district, two inches in a D district and two and one-half inches in an E district.

The A district is essentially a warehouse district and is confined to a narrow belt along the navigable waterfront and along the rail terminals. Light is not required for most storage buildings. The A district is established so that storage buildings that do not require light and air will not need to provide unnecessary open spaces. The Districting plan makes it possible to give such buildings a place to locate where they will be exempt from all yard requirements. Any building in an A district, however, that is required to have a court to light its workrooms must provide courts of at least one inch in least dimension for each foot of height, as now provided in the Building Code. This does not mean that a building covering the entire plot may not be located outside of an A district, for in a B, C or D district a department store, for example, not back to back with another building and with no rooms that have to face on a legal court, could occupy 100 per cent. of the lot for its entire height.

In a B district rear yards must be at least two inches in least dimension for each one foot of height, and outer courts and side yards at least one inch in least dimension for each one foot of height. This will require for all buildings slightly deeper yards above 90 feet in height than are now required under the Tenement House Law. This will only affect elevator apartments above eight or nine stories in height fronting on the long side of blocks, and the increased width of yard will not have to be carried down to the ground, but can be provided in a set back above the 90-foot limit. In the B districts the important change, as compared with existing conditions, is the requirement of a rear yard for business and industrial buildings as well as tenements wherever they are back to back with the rear of another property. The rear yard for a building 120 feet high or about 10 stories would be 20 feet in depth, and for a building 150 feet high, or about 12 stories, would be 25 feet in depth. This is not in excess of the best economic standards and practice, and will greatly improve light and

air conditions in the loft building and office building sections of the city. In case the yard started 18 feet above the curb, as permitted for buildings not in residence districts, the width of the yard at any height above the curb would be three feet less than indicated in the above examples. (See Figure 29).

In the C districts rear yards for all buildings must be at least three inches in least dimension for each one foot of height and outer courts and side yards must be at least one and one-half inches in least dimension for each one foot of height. The prescribed minimum size of yards and courts remain about the same as under the Tenement House Law up to and including five stories in height. Above that height, however, they gradually become more stringent than under the Tenement House Law. In a building five stories, or approximately 56 feet in height, a rear yard under these provisions would have to be 14 feet wide, or two feet wider than required under the Tenement House Law. An outer court would have to be seven feet wide, or one foot wider than required under the Tenement House Law. However, as buildings on interior lots are limited to 70 per cent. of the lot under the Tenement House Law, this is apt to require increases in the minimum depths and widths of courts and yards, and for most floor plans and plots a five-story tenement house covering 70 per cent. of the lot could be built under the C district regulations. On account of difficulties in planning suitable buildings for small plottages a special exception is made in the court requirements for a lot 30 feet or less in width. On such lots outer and inner courts are subject to the regulations provided for such courts in the B districts. (See Figure 30).

For all buildings in a D district rear yards must be four inches in least dimension for each one foot of height and courts and side yards two inches in least dimension for one foot of height. A building on an interior lot in a residence district may not cover more than 60 per cent. of the area of the lot; on a corner lot it may cover 80 per cent. of such area. In a residence district the depth of a rear yard at the curb level shall be 20 per cent. of the depth of the lot, but need not exceed 20 feet at such level. The restrictions provided for the D districts are especially appropriate for one and two-family house districts, especially where houses occur in rows. They are also appropriate for multi-family houses, provided they are built with more adequate courts and open spaces than is now customary. The minimum dimensions of yards and courts are double those required for buildings in the B districts. A tenement or an apartment house on an interior lot in a D district covering 60 per cent of its lot, four stories, or 44 feet in height, would have to have a yard 20 feet deep and an outer court at least seven feet four inches wide. For lots of 30 feet or less in width outer and inner courts are subject to the less restrictive regulations provided for such courts in C districts. (See Figure 31).

The E district regulations are particularly appropriate for detached or semi-detached houses on lots 40 feet or more in width. In a residence

district a building on an interior lot with its porches, wings and accessory buildings may not occupy for the first story more than 50 per cent. of the area of the lot, and may not exceed 30 per cent. of the area of the lot above the first story. For a corner lot these percentages are increased to 70 per cent. and 40 per cent. respectively. For all buildings rear yards shall be at least five inches in least dimension for each one foot of height and courts and side yards at least two and one-half inches for each foot of height. For a lot 50 feet or less in width courts and side yards shall be not less than two inches in least dimension for each foot of height. In a residence district the depth of the rear yard at the curb level shall be at least 25 per cent. of the depth of the lot, but need not exceed 25 feet. If the building is set back from the street the required depth of the rear yard may be correspondingly decreased, but not below ten feet. On at least one side of every building in a residence district there shall be a side yard along the lot line for the full depth of the lot. For any building not within a residence district the depth of the required rear yard at its lowest level must be at least 15 per cent. of the depth of the lot, but need not exceed 15 feet at such level. (See Figure 32).

It is so important to secure some segregated open space for the joint play and recreational use of the residents of every section that is built up with tenement or apartment houses that it is well worth while to grant developers the option of building under less restrictive provisions as to courts and yards if as a substitute they supply areas suitable for recreational use. An arrangement is accordingly provided whereby an individual developer or group of property owners in a D or C district can by setting aside 10 per cent. of their land for joint recreational use, be relieved of the court and yard requirements of the district in which they are situated and have the right to follow the requirements of the next less restricted district. The 10 per cent. set aside for common recreational use must be equal to at least 5,000 square feet and must be at least 40 feet in its least dimension. This common space may be left in the center of the block or it may be made up of any lots in the block or in an adjoining block that are approved by the superintendent of buildings as suitable for the joint recreational use of the residents. (See Figure 33).

CHAPTER VII—FUTURE CHANGE AND DEVELOPMENT OF DISTRICTING PLAN

The Legislature by a recent amendment to the districting provisions of the Charter (sections 242a, 242b) has provided a definite method, under appropriate safeguards, by which the Board of Estimate may amend and supplement any general districting plan that it may adopt. This amendment was drafted by the Commission and approved by the Board of Estimate. It is essential to the success and future development of any districting plan.

The districting plan submitted has been evolved after a careful study of existing conditions and tendencies and a careful estimate of probable future needs and requirements, both of the city as a whole and of each particular section. There is no thought, however, that the plan now proposed can be complete and final for all time. There are doubtless errors and omissions that will be brought out only by actual operation. Moreover it is recognized that any plan of city building must be modified and supplemented with the growth of the city and the changes in social and economic conditions due to the progress of invention and discovery.

"No limit can be set to the growth and expansion of the city. No amount of planning can avoid the necessity for a considerable amount of reconstruction and change. Regardless of the requirements of an increasing population, the city structure must change to conform to the changes in the economic and industrial world. The city is but an expression of the existing economic, commercial, industrial, social and political organization. When invention and discovery are changing the methods of work and of living throughout the world, it is idle to think that we can so judge the future that our present plans for the city's development will not require change and modification. The 'once for all' method of city planning is therefore impractical. We cannot adopt a plan and make that the Procrustean mold for all future time. The plan must develop and change with the advance of civilization. City planning to be effectual must be sustained and continuous. It is never completed." [1]

Even now it is clear that the present plan must be supplemented and changed when plans for certain fundamental factors affecting the physical structure of the city have been definitely worked out. Among these factors are, a comprehensive plan of port and terminal development, a plan of park development in Brooklyn, Queens and Richmond, a plan for future extensions and surface line feeders for the dual subway system.

Moreover the present plan has been developed along quite broad general lines with the belief that after its adoption it would be further sup-

[1] Robert H. Whitten, in Development and Present Status of City Planning in New York City, p. 18.

plemented by more restrictive provisions in various areas. A more intensive study of particular sections will doubtless show that some streets now unrestricted or restricted to business may with advantage be included in the residence class. The owners interested will doubtless in many cases petition that this be done. Similarly and even to a greater extent the area districts contained in the present plan will be supplemented in order to conserve existing developments and extend the safeguard of the E and D restrictions to other sections.

The method of amendment contained in the proposed districting resolution is as follows: "Whenever the owners of 50 per cent. or more of the frontage in any district or part thereof shall present a petition duly signed and acknowledged to the Board of Estimate and Apportionment requesting an amendment, supplement, change or repeal of the regulations prescribed for such district or part thereof, it shall be the duty of this Board to vote upon said petition within 90 days after the filing of the same by the petitioners with the Secretary of this Board. If, however, a protest against such amendment, supplement or change be presented, duly signed and acknowledged by the owners of 20 per cent. or more of the frontage proposed to be altered, or by the owners of 20 per cent. of the frontage immediately in the rear thereof, or by the owners of 20 per cent. of the frontage directly opposite the frontage proposed to be altered, such amendment shall not be passed except by the unanimous vote of the Board."

The above provisions in relation to a protest of 20 per cent. of frontage affected are identical with the provisions for amendment added by the recent Legislature to the districting sections of the Charter. Under this method it will be possible for the owners in any block frontage between two intersecting streets to petition for the kind of restriction that will best conserve the type of improvement most suitable for that block. We believe that this process of amending, supplementing and perfecting the general plan is essential to its full success.

Under the districting resolution submitted the enforcement of the plan is vested in the superintendent of buildings in each borough, the fire commissioner and the tenement house commissioner under the rules and regulations of the Board of Standards and Appeals. The chief control will be exercised through the building permit and the certificate of occupancy issued by the superintendent of buildings. The fire commissioner's jurisdiction will be confined to subsequent enforcement of provisions in relation to the use of buildings. The tenement house commissioner will have jurisdiction over the application of the provisions of the resolution to tenement houses.

The future amendment and development of the districting plan will doubtless entail some added work for the Board of Estimate. It should be carried on as part of the general work of comprehensive planning that the Board's Committee on the City Plan has in hand. It is very important for the permanent success of the districting plan that all detailed amend-

ments should be correlated with a comprehensive plan of city growth and development.

Respectfully submitted,

COMMISSION ON BUILDING DISTRICTS AND RESTRICTIONS,

Edward M. Bassett, *Chairman,*
Lawson Purdy, *Vice-Chairman,*
Edward C. Blum,
James E. Clonin,
Otto M. Eidlitz,
Burt L. Fenner,
Edward R. Hardy,
Richard W. Lawrence,
Alrick H. Man,
Alfred E. Marling,
George T. Mortimer,
J. F. Smith,
Walter Stabler,
Franklin S. Tomlin,
George C. Whipple,
William G. Wilcox.

Robert H. Whitten, *Secretary.*

APPENDIX I—CHARTER PROVISIONS

Sections 242a and 242b of Greater New York Charter, as Enacted by Chapter 470 of Laws of 1914 and Amended by Chapter 497 of Laws of 1916

§ 242-a. The board of estimate and apportionment shall have power to regulate and limit the height and bulk of buildings hereafter erected and to regulate and determine the area of yards, courts and other open spaces. The board may divide the city into districts of such number, shape and area as it may deem best suited to carry out the purposes of this section. The regulations as to the height and bulk of buildings and the area of yards, courts and other open spaces shall be uniform for each class of buildings throughout each district. The regulations in one or more districts may differ from those in other districts. Such regulations shall be designed to secure safety from fire and other dangers and to promote the public health and welfare, including, so far as conditions may permit, provision for adequate light, air and convenience of access. The board shall pay reasonable regard to the character of buildings erected in each district, the value of the land and the use to which it may be put to the end that such regulations may promote public health, safety and welfare and the most desirable use for which the land of each district may be adapted and may tend to conserve the value of buildings and enhance the value of land throughout the city. The board shall appoint a commission to recommend the boundaries of districts and appropriate regulations to be enforced therein. Such commission shall make a tentative report and hold public hearings thereon at such times and places as said board shall require before submitting its final report. Said board shall not determine the boundaries of any district nor impose any regulation until after the final report of a commission so appointed. After such final report said board shall afford persons interested an opportunity to be heard at a time and place to be specified in a notice of hearing to be published for ten consecutive days in the City Record. The board may from time to time after public notice and hearing amend, supplement or change said regulations or districts but in case a protest against a proposed amendment, supplement or change be presented, duly signed and acknowledged by the owners of twenty per centum or more of the frontage proposed to be altered, or by the owners of twenty per centum of the frontage immediately in the rear thereof, or by the owners of twenty per centum of the frontage directly opposite the frontage proposed to be altered, such amendment shall not be passed except by a unanimous vote of the board.

§ 242-b. The board of estimate and apportionment may regulate and restrict the location of trades and industries and the location of buildings designed for specified uses, and may divide the city into districts of such number, shape and area as it may deem best suited to carry out the purposes of this section. For each such district regulations may be imposed designating the trades and industries that shall be excluded or subjected to special regulations and designating the uses for which buildings may not be erected or altered. Such regulations shall be designed to promote the public health, safety and general welfare. The board shall give reasonable consideration, among other things to the character of the district, its peculiar suitability for particular uses, the conservation of property values, and the direction of building development in accord with a well-considered plan. The board

shall appoint a commission to recommend the boundaries of districts and appropriate regulations and restrictions to be imposed therein. Such commission shall make a tentative report and hold public hearings thereon before submitting its final report at such time as said board shall require. Said board shall not determine the boundaries of any district nor impose any regulations or restrictions until after the final report of a commission so appointed. After such final report said board shall afford persons interested an opportunity to be heard at a time and place to be specified in a notice of hearing to be published for ten consecutive days in the City Record. The board may from time to time after public notice and hearing amend, supplement or change said regulations or districts but in case a protest against a proposed amendment, supplement or change be presented, duly signed and acknowledged by the owners of twenty per centum or more of the frontage proposed to be altered, or by the owners of twenty per centum of the frontage immediately in the rear thereof, or by the owners of twenty per centum of the frontage directly opposite the frontage proposed to be altered, such amendment shall not be passed except by a unanimous vote of the board.

APPENDIX II—DISTRICTING RESOLUTION

(Draft of June 2, 1916)

A Resolution Regulating the Height and Bulk of Buildings, the Area of Courts and Yards, the Location of Trades and Industries and the Location of Buildings Designed for Specified Uses and Establishing the Boundaries of Districts for Such Purposes

Be it resolved by the Board of Estimate and Apportionment:

Section 1. Definitions: Certain words in this resolution are defined for the purposes thereof as follows: Words used in the present tense include the future; the singular number includes the plural and the plural the singular; the word "lot" includes the word "plot"; the word "building" includes the word "structure."

(*a*) For the purposes of Articles II and III a "residential building" is any building or part of a building within a "residence district," as shown on the accompanying use district maps. A "non-residential building" is any building or part of a building within a "business," an unrestricted" or an "undetermined district," as shown on the accompanying use district maps.

NOTE.—For the purpose of computing area restrictions, a residential building would be any building in a residence district, as defined in Section 11 of this resolution. This would mean that a church, school, hospital, or hotel on a residence street, as designated on the accompanying use district maps, would have the same size yards and courts as an apartment house or dwelling. On the other hand an apartment house or dwelling in a business or unrestricted district, as designated on the accompanying use district maps, would have the same size yards and courts as the surrounding business or factory buildings.

In several of the classes there is no difference as between residential and non-residential buildings in the yard, court and height restrictions except that in business or unrestricted districts, apartment or tenement houses would be allowed to have stores covering the whole of the ground floor wherever permitted by the Tenement House Law, whereas in the residence districts these yards and courts would have to run down to the ground level.

(*b*) A "factory is a building or portion of a building in which six or more persons are employed in any process or part of a process of transforming or converting raw material, partly wrought material or imperfect material into forms suitable for use.

(*c*) The "curb" is the mean curb level at that front of the building which faces on the street of greatest width, or, if the greatest width occurs on more than one of the streets on which the building faces, the mean curb level at that front of the building which faces on the street of greatest width and having the highest curb. Where no street grade has been legally established, or the building does not adjoin the street, the average level of

all the ground adjoining such building shall be taken, with the approval of the building superintendent, as the equivalent of the curb level.

NOTE.—This definition of curb level is the same as the one in the new Building Code. It differs from the Tenement House Law in that, under the latter, it might be possible in certain cases to get in two stories more than could be put in under this definition. It will be observed, however, that in the last clause of section 1, subsection (e), the definition of curb in the Tenement House Law will govern wherever the building comes under the Tenement House Law. The last sentence of section (c) makes it possible for a building on a terrace high above the street to regulate its height and yards and courts from the ground level immediately about the building. If a building faces on a 60-foot street and two 100-foot streets, the height of the building may be determined from the higher of the two 100-foot streets.

(*d*) A "street wall" of a building at any height above the curb is the wall of the building nearest to the street line and approximately parallel to it.

NOTE.—A street wall as thus defined does not have to be on the street line. Here the street line is the dividing line between the public legal street and the private property regardless of whether there is a set-back easement or not. A street wall may be set any number of feet back from the street line provided it is approximately parallel to it and provided it is the nearest wall to the street. If a street wall or a portion of a street wall is set at an angle with the street, it should be considered as set back at its average distance from the street line. Of course, this would not prevent the projection of ordinary dormers and bay windows beyond the street wall as allowed in the Building Code, nor would it prevent the projection of wall signs, etc., provided that they keep within the height regulations. The street wall also includes the front walls of set-backs as they may occur above the height limit and would also include the front walls of dormers, towers and head-houses.

The street line, as defined here, is virtually the same as "building line" as used in the Building Code, except that here the street line is without exception the line dividing the public street or open space from private property.

(*e*) The "height" of a street wall of a building is the vertical distance measured in a straight line from the curb level to the highest point of the roof beams adjacent to the street wall in the case of flat roofs, and to the average height of the gable in the case of roofs having a pitch of more than 20 degrees with a horizontal plane. Where a building comes under the jurisdiction of the Tenement House Law the definition of the height of the building and of the curb level shall be as defined in the Tenement House Law, Article 1, Section 2, Subsection 12.

NOTE.—The height of a street wall is the same as defined in the Building Code. (See Figure 1.)

The last sentence in subsection (e) was added in order to allow nine stories to be erected in the 90 feet of height allowed for apartments under the Tenement House Law on the 60-foot streets of the city. This would be virtually impossible under the definition of height in the first sentence of subsection (e). (See Figure 2.)

Parapets, dormers, head-houses, towers, roof signs, etc., may be excepted from the above as set forth in the exceptions to the height provisions in Section 8.

(*f*) The "width of the street" is the average width of the street within the block measured from street line to opposite street line, but where a street borders a public place, a public park or body of water the width of

the street is the width of such marginal street plus the width of such public place, public park or body of water.

Note.—If two sides of a street are not parallel, the width of the street shall be considered to be the average width of the street within the block but there will

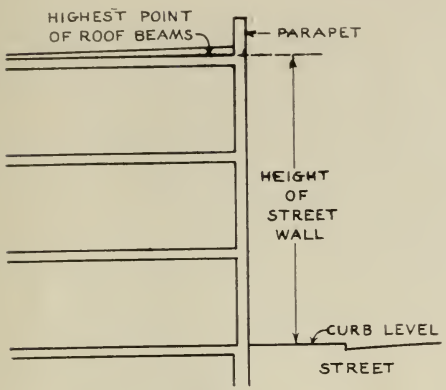


Fig. 1
Section 1-e

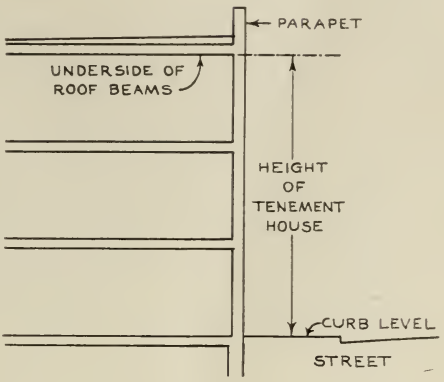


Fig. 2
Section 1-e

undoubtedly arise exceptions which cannot be precisely covered by any wording of this definition. In such cases the determination of the exact width of a street within a block will have to be left to the building superintendent. (See Figure 3.)

The last clause was put in so as to allow advantage to be obtained from the open spaces of parks, etc., but if the street between a building and the park or waterfront is 100 feet or more in width, no exceptional advantage will accrue from the presence of the open space on the other side of the street.

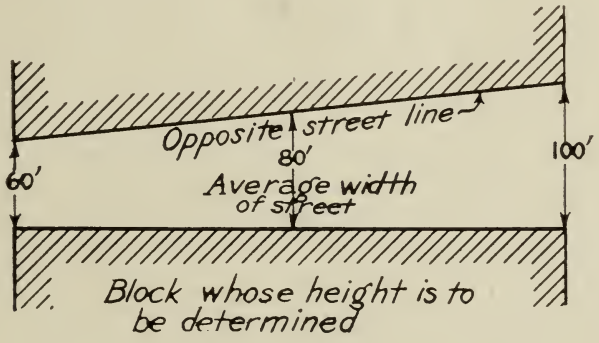


Fig. 3.
Section 1-f

(*g*) A "corner lot" is a lot at a corner or at the junction of two or more intersecting streets between which there is an interior angle of less than 135 degrees. Where a lot is on a curve, if tangents through the

extreme points of the street line of such lot make an interior angle of less than 135 degrees, it is a corner lot. Any other lot is an "interior lot."

NOTE.—Where a bend in a street, even though it is not at the junction of two or more streets, makes an angle of more than 45 degrees in its change of direction it will create a corner lot on the inner side of its angle. There can be only one corner lot at a corner. (See Figure 4.)

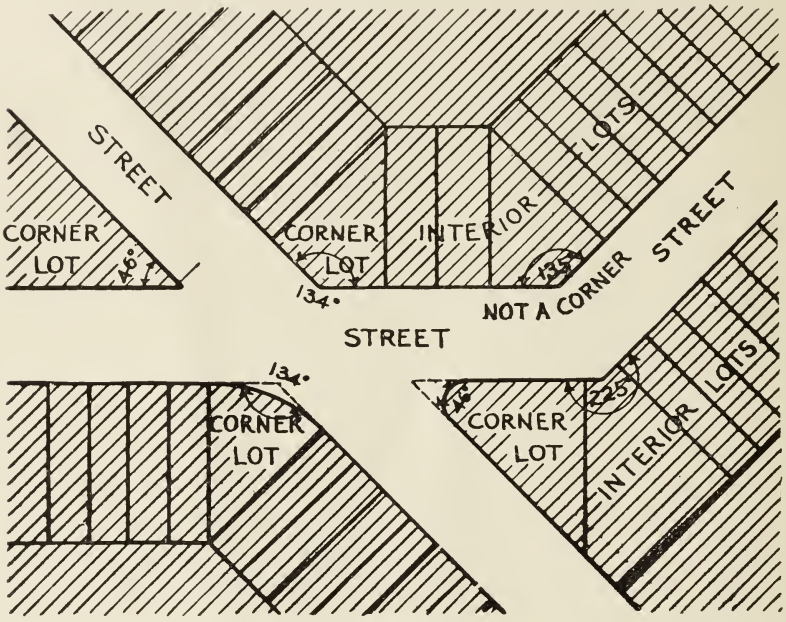


Fig. 4
Section 1-g

(*h*) A "rear yard" is an open, unoccupied space on the same lot with a building between the extreme rear line of the building and the rear line of the lot. In the case of a corner lot the owner may elect by a statement on his plans any street boundary as his front. The rear of a lot is the side opposite to the street front. In the case of a triangular or gore lot the rear is the boundary line not bordering on a street. The depth of a lot is the average distance from the street front line of the lot to the rear line of the lot.

NOTE.—In buildings where the rear yard is required to run down to the ground level the extreme rear line of the building would be taken at the ground level. In any other building, however, it would be taken at a point 18 feet above the curb. If the rear line of the lot is irregular or is not parallel with the rear line of the building or with the street the average distance from the extreme rear of the building to the rear line of the lot should be taken in computing the minimum depth of the rear yard or of the rear court. (See Figure 5.)

The next two sentences with regard to electing on the plans which shall be the front side of a building and thereby determining per contra which side shall be the rear of the lot is taken from Mr. Veiller's Model Housing Law as the best method of determining the rear line of buildings for the purpose of determining when a building is back to back or not with another building. The front of a building as chosen for this purpose, need bear no relation to the front as chosen for the purpose of determining the height of buildings or the front as chosen under the Tenement House Law for the purpose of determining the location of rear yards under that law.

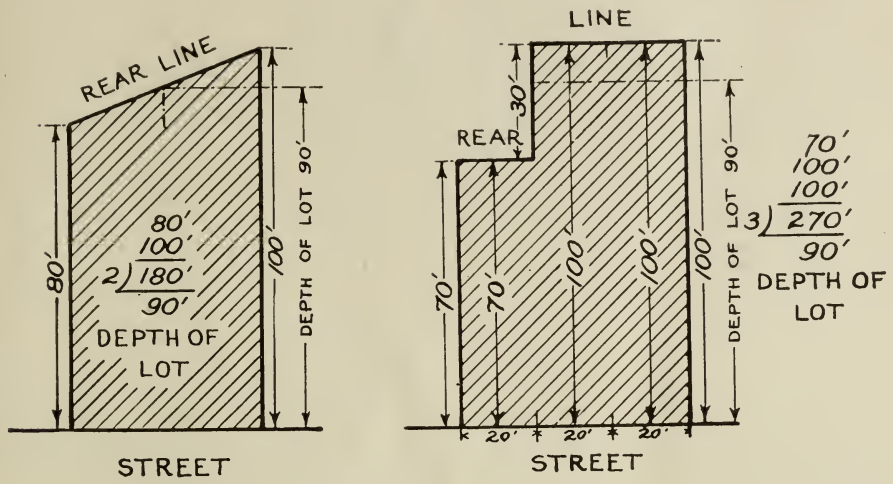


Fig. 5
Section 1-h

(*i*) Buildings or portions of buildings shall be deemed "back to back" when they are on opposite sides of the same part of a rear line common to each and the streets on which the buildings front are parallel with each other or make an angle with each other of not over 45 degrees.

Note.—Buildings on the corners of two or more streets and interior buildings fronting on the narrow ends of blocks need rarely be back to back with another property. In general, it is the buildings in the middle of the long sides of blocks that would be back to back with each other. The common rear lot line does not have to be parallel with either street in order to make the buildings back to back. (See Section 11a for diagrams.)

(*j*) A "court" is an open, unoccupied space, other than a yard, on the same lot with a building. A court not extending to the street or a rear yard of at least the prescribed size is an "inner court." Where a building is not required to have a rear yard under Section 11, a court adjacent to the rear lot line of at least the minimum size and dimensions at any height prescribed for an inner court shall be deemed to be a prescribed rear yard. A court extending to the street or a rear yard of at least the prescribed size is an "outer court." An outer court on the lot line extending through from the street to a rear yard of at least the prescribed size is a "side yard."

NOTE.—The definitions of courts are approximately the same as those of the Tenement House Law. In the case of a building that is not required to have a rear yard, a yard equal in size to that of an inner court, will be accepted for the purposes of the above outer court and side yard definitions. (See Figure 6.)

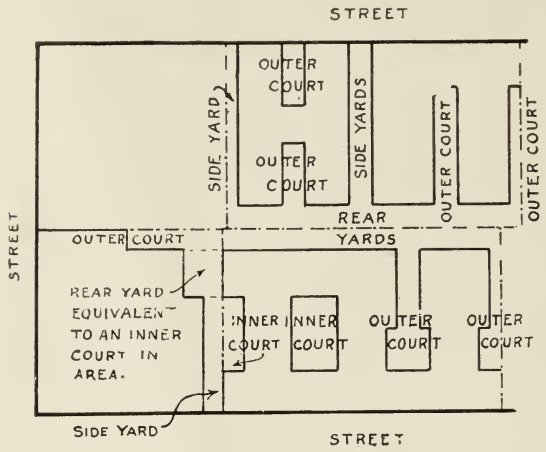


Fig. 6
Section 1-j

(*k*) The "height" of yards and courts shall be measured from the lowest part of such yard or court as actually constructed. The "height" of yards and courts for all buildings that come under the jurisdiction of the Tenement House Law shall be measured from the curb level.

NOTE.—The height of yards and courts will as a general rule be measured as they are in the Light and Ventilation Article of the Building Code, that is, from the lowest part of the yard or court. The lowest part may be the curb level or it may be the top of the ground story or it may be higher but the bottom of a prescribed rear yard cannot be higher than 18 feet above the curb.

As an exception to the above general rule, for all buildings that are subject to the provisions of the Tenement House Law, the height of yards and courts will be measured from the curb level even though the yard or court actually starts at or above the second floor level.

(*l*) The "least horizontal dimension" of a yard or court at any level is the least of the mean clear horizontal dimensions of such yard or court at such level.

NOTE.—If a court or yard is of irregular shape, say, for example, a trapezoid, the mean clear horizontal average dimensions in each direction would be calculated and the least of these would be the one taken for the purposes of this resolution. (See Figure 7.)

Article I—Use Districts

Section 2. For the purpose of designating, regulating and restricting the location of trades and industries and the location of buildings designed for specified uses, the City of New York is hereby divided into four classes of districts: (1) residence districts, (2) business districts, (3) unrestricted districts and (4) undetermined districts, as shown on the use district maps

which accompany this resolution and are hereby declared to be part hereof. The use districts described on said maps are hereby established.

Section 3. All buildings or premises shall conform to the regulations and restrictions hereinafter established for the use district in which they are located. All existing buildings or premises may continue in their present use or uses, but said use shall not hereafter be converted or changed without

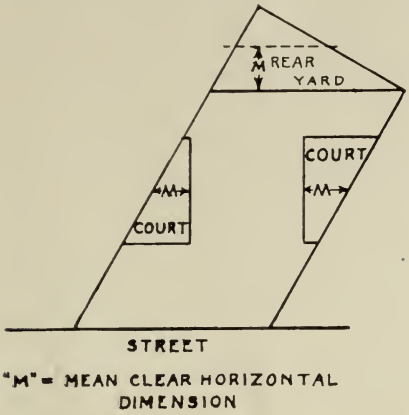


Fig. 7
Section 1-1

conforming to the regulations herein established. The superintendent of buildings may, however, in appropriate cases vary the application of the regulations established as follows:

Note.—It is intended that an existing factory loft building which would find itself in a business district even though it were entirely vacant at the time of passage of this resolution, if it were obviously designed for manufacturing, should be allowed to continue in that use. The same would be true of a building for which plans had been filed at the time of passage of this resolution. On the other hand, it is intended that a building which has been occupied for business use and not for manufacturing shall not be converted to industrial use where it happens to come in a business district. A private house could be altered into a club house or boarding house within a residence district, but not into a store or other business or industrial use.

(*a*) Permit the reconstruction of existing buildings or the erection of additional buildings upon a plot exclusively occupied by a single trade, industry or use existing at the time of the passage of this resolution but not conforming to the uses allowed in the use district in which it is located.

Note.—This would permit an industrial or business plant located at the time of passage of this resolution in a business or even a residence district to continue to build on additions provided that such extensions do not constitute an extension of the land area occupied and provided the superintendent of buildings is convinced that they will not seriously harm the neighborhood. It is not assumed, for example, that under this provision a one-store garage in a residence district could be converted into a three-story garage as that would doubtless be a detriment to the neighborhood.

(*b*) Where a use district boundary line divides a plot in a single ownership at the time of the passage of this resolution, permit a use authorized on either portion of such plot to extend to the entire plot but not more than

25 feet beyond the boundary line of the district in which such use is authorized.

NOTE.—Where the influence of a business district designation extends back for 100 feet and only 100 feet on a side residence street this will in appropriate cases allow a man who owns from 50 feet from the corner to 125 feet from the corner to use his whole front for business but if his parcel runs to 150 feet from the corner the last 25 feet will have to be used for residence purposes. The same will be true with regard to the depth of the plot. If a lot were 150 feet deep the business use could in appropriate cases go back 125 feet and the last 25 feet would be residential. The method of carrying a business use back further still into a residence district is shown in the next subsection.

(*c*) Permit the extension of a single building back into a more restricted district under such conditions as will safeguard the character of the more restricted district.

NOTE.—Under this subsection the building superintendent could in appropriate cases permit a factory building to run well back into a business street or a department store to run back into a residence district, provided, for example, that in the case of the factory that the operatives and the goods came and went by entrances within the unrestricted district and provided that in the latter case that the store had no show windows or signs or entrance within the residence district. Preventing blocking the side residence street with delivery wagons would probably be a sufficent cause for refusing such an extension. Cases of the above could extend around the end of a block or through the middle of a block.

(*d*) Waive the residence district regulation where a residence district has a frontage of not more than 100 feet on either or both sides of a street between two business or unrestricted districts.

NOTE.—As the district designation shown in a street intersection is allowed to extend back 100 feet along a side street, if a block between two business streets, for example, were less than 300 feet long there is often little object in trying to preserve the middle portion for residential use. However, by the time it gets to be over 100 feet there is enough of a nucleus to be worth preserving for residential use. (See Figure 8.)

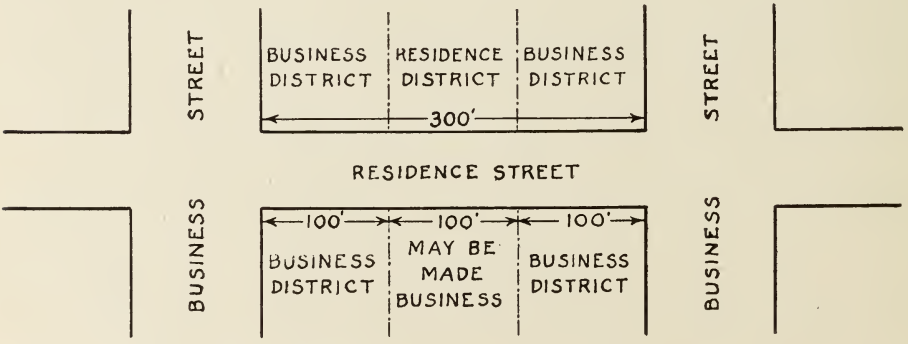


Fig. 8
Section 3-d

(*e*) Approve in undeveloped sections of the city temporary and conditional permits for not more than two years for structures and uses in contravention of the requirements of this resolution.

NOTE.—This would allow a man out in farther Queens in the midst of what is shown on the map as a future residence section to locate a cement block making plant or a public garage, provided that he would remove his plant at the end of two years if the building superintendent thought it was becoming a nuisance.

(*f*) Where the street layout actually on the ground varies from the street layout shown on the district maps, apply the designations shown on the mapped streets to the unmapped streets in such a way as to carry out the intent and purpose of the plan for the particular section in question.

NOTE.—There are many cases in the five boroughs where the mapped streets do not follow those on the ground. The districting plans necessarily had to be shown on an official map. Eventually either the streets on the ground will be changed to conform with the map or vice versa. In the meantime the building superintendent can interpret the maps so as to apply their intent to the streets on the ground. It seems desirable for the future that whenever the Board of Estimate is considering a topographical map change that will affect the districting maps that it hold a hearing on both changes at the same time.

Section 4. Residence Districts: In a residence district only buildings with their usual accessories designed exclusively for the following specified uses may be constructed:

(1) Dwellings, which shall include tenement houses, boarding houses, and hotels having thirty or more sleeping rooms.

(2) Private clubs.

(3) Religious, educational, philanthropic and eleemosynary buildings and institutions, other than correctional institutions.

(4) Hospitals and sanitariums.

(5) Farming, truck gardening, nurseries or greenhouses.

In a residence district the use of buildings or premises shall be limited to the uses as above specified, for which buildings may be constructed and to the customary accessory uses incident thereto. The superintendent of buildings may, however, permit in a residence district any building or use in keeping with the uses expressly enumerated above. The term accessory use shall not include a business or a factory nor shall it include any building or use not located on the same plot with the building or use to which it is accessory. A private garage for more than five motor vehicles shall not be deemed an accessory use. A private club having as its chief activity a service customarily carried on as a business shall be excluded from a residence district.

Section 5. Business Districts: In a business district no buildings shall be constructed and no premises or buildings shall be used for any of the following specified trades, industries or uses:

Ammonia, chlorine or bleaching powder manufacture.
Asphalt manufacture or refining.
Assaying (other than gold and silver).
Blacksmithing.

Boiler making.
Brewing and distilling of liquors.
Carpet cleaning.
Celluloid manufacture.
Crematories.
Distillation of coal, wood or bones.
Dyeing and dry cleaning.
Electric central station power plants.
Fat rendering.
Fertilizer manufacture.
Garage for five or more motor vehicles.
Gas (illuminating or heating) manufacture and storage.
Glue, size and gelatine manufacture.
Incineration or reduction of garbage, offal, dead animals or refuse.
Iron, steel, brass and copper works.
Junk and rag storage and baling.
Lamp black manufacture.
Lime, cement and plaster of paris manufacture.
Milk bottling or distributing station.
Oil cloth or linoleum manufacture.
Paint, oil, varnish and turpentine manufacture.
Petroleum refining or storage.
Printing ink manufacture.
Raw hides and skins—storage, curing and tanning.
Rubber manufacture from the crude material.
Saw or planing mills.
Shoddy manufacture and wool scouring.
Slaughtering of animals.
Smelting.
Soap manufacture.
Stable for five or more horses.
Starch, glucose or dextrine manufacture.
Stock yards.
Stone and monumental works.
Sugar refining.
Sulphurous, sulphuric, nitric or hydrochloric acid manufacture.
Tallow, grease and lard manufacture and refining.
Tar distillation or manufacture.
Tar roofing or tar waterproofing manufacture.

No building shall be erected and no building or premises shall be used for any trade or industry that is noxious or offensive by reason of the emission of noise, odor, dust, smoke or gas, but car barns or places of amusement shall not be excluded. The superintendent of buildings may, however, permit the erection of a garage or stable in a business district in any portion of a street between two intersecting streets in which there exists a public garage or public stable at the time of the passage of this resolution. The use of buildings or premises for factory purposes shall be prohibited in a business district except that 25 per cent of the total floor space of a building, or space at least equal to the ground area of the building or lot may be so used. The printing of a newspaper shall not be deemed a factory use. No use permitted in a residence district by Section 4 shall be excluded from a business district.

Section 6. Unrestricted districts and undetermined districts: The terms "unrestricted district" and "undetermined district" are used to designate the areas for which no restrictions or regulations in relation to the location of trades and industries and the location of buildings designed for specified uses are provided by this resolution.

NOTE.—The difference between these two classes is explained on page 20.

Article II—Height Districts

Section 7. For the purpose of regulating and restricting the height of buildings, the City of New York is hereby divided into five classes of districts, (a) one-times districts, (b) one and one-quarter times districts, (c) one and one-half times districts, (d) two times districts, (e) two and one-half times districts, as shown on the height district maps which accompany this resolution and are hereby declared to be part hereof. The height districts described on said maps are hereby established. The heights of buildings hereafter erected shall in general be limited with relation to the open spaces on which they face. Except as hereinafter provided, every building hereafter erected shall be so constructed that the street wall shall not exceed in height the limits hereinafter prescribed, and that any other wall or structure or any part of such building or any structure on it shall not exceed the set-back and other provisions hereinafter prescribed.

NOTE.—The height limits as proposed would affect only new buildings or existing buildings when they came to be altered. If a roof house, or a roof sign were placed on top of the building, it would have to conform to these height provisions. The intent of these provisions is to keep all buildings down to a height that will allow the greatest amount of light to penetrate into the street and into the lower windows of opposite buildings consistent with a reasonable improvement of the property. On account of widely different local conditions in New York, it seemed necessary to have five classes, as shown above.

(*a*) In a one times district no building shall be erected on the street line to a height in excess of once the width of the street. Above such height limit on the street line the height of the building may be increased provided that such extended portion sets back from the street line in the ratio of one foot horizontally for each two feet of its height above the prescribed height limit on the street line.

(*b*) In a one and one-quarter times district no building shall be erected on the street line to a height in excess of one and one-quarter times the width of the street. Above such height limit on the street line the height of the building may be increased provided that such extended portion sets back from the street line in the ratio of one foot horizontally for each two and one-half feet of its height above the prescribed height limit.

(*c*) In a one and one-half times district no building shall be erected on the street line to a height in excess of one and one-half times the width of the street. Above the height limit on the street line the height of the building may be increased provided that such extended portion sets back

from the street line in the ratio of one foot horizontally for each three feet of its height above the prescribed height limit.

(*d*) In a two times district no building shall be erected on the street line to a height in excess of twice the width of the street. Above the height limit on the street line the height of the building may be increased provided that such extended portion sets back from the street line in the ratio of one foot horizontally for each four feet of its height above the prescribed height limit.

(*e*) In a two and one-half times district no building shall be erected on the street line to a height in excess of two and one-half times the width of the street. Above the height limit on the street line, the height of the building may be increased, provided that such extended portion sets back from the street line in the ratio of one foot horizontally for each five feet of its height above the prescribed height limit.

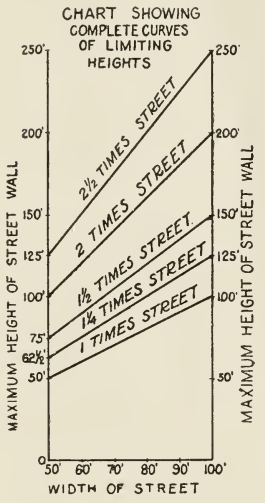


Fig. 9 Section 7

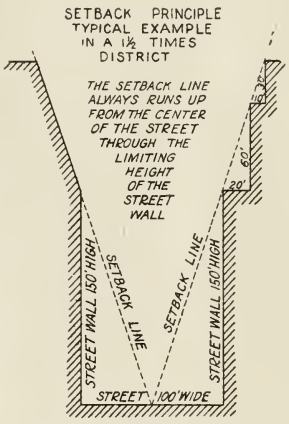


Fig. 10 Section 7

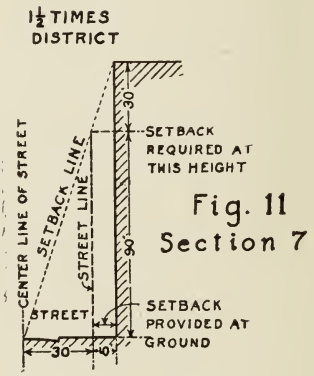


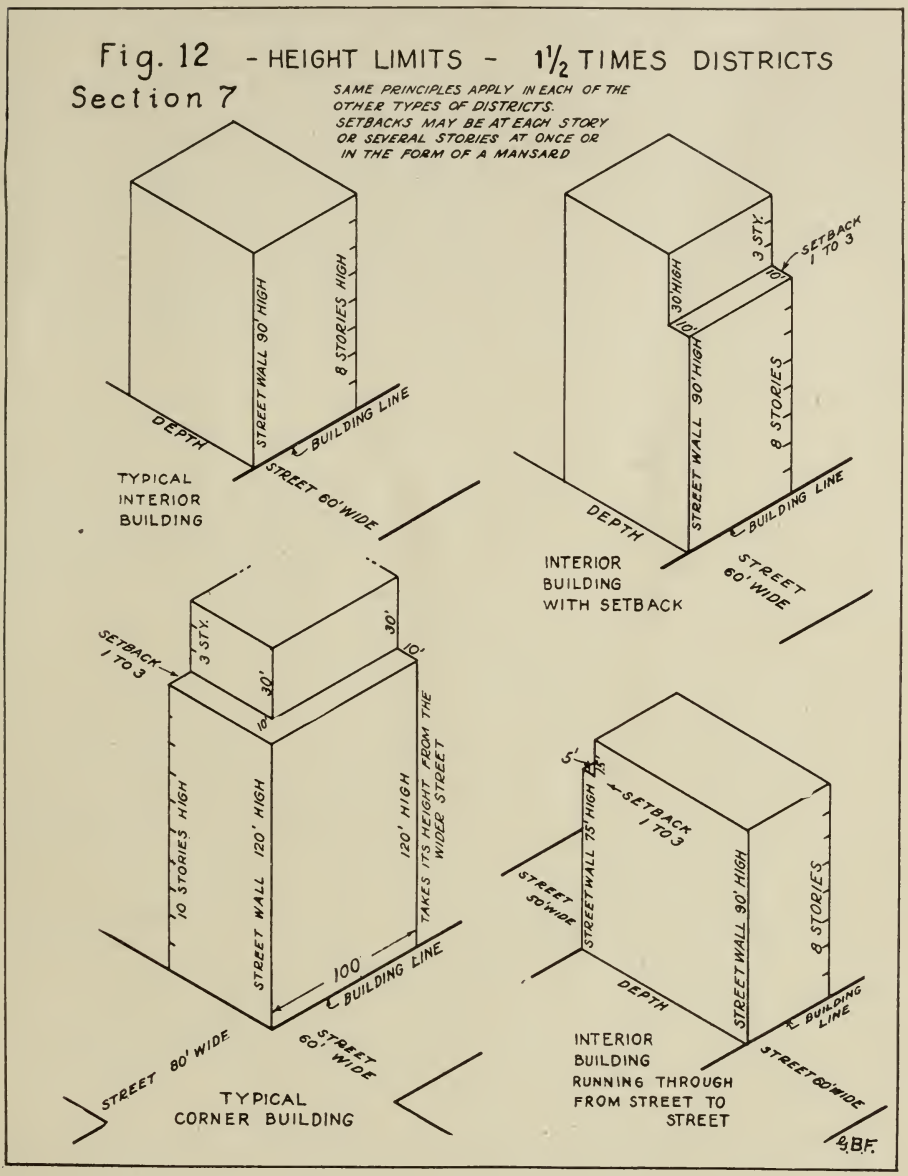
Fig. 11 Section 7

Note.—Exactly the same principles apply in all five districts. The one and one-half times district is chosen for illustrative examples merely for convenience. The accompanying diagram (Figure 9) shows the five curves of limiting heights.

In a one and one-half times district the height of all buildings would be made to conform approximately to that now provided for in the Tenement House Law. However, on account of the difference in definition of curb level, buildings other than tenement houses would take their height from the widest street and not from the street of greatest grade.

A set back means briefly this, that if an owner wishes to carry a building to a greater height than that allowed on the street line as, for example, 90 feet on a 60-foot street in a one and one-half times district, he can add on an upper 30 feet provided he sets the upper 30 feet back 10 feet from the street line. He can make that set back right from the height limit in the form of a mansard which would slope back in a ratio of one foot horizontally to three feet vertically, or in a set back of three and one-third feet for each of three stories, or in a set back of 10 feet for the whole height of 30 feet; then he can set back again above the top of this set back provided he keeps in

the same set-back plane. In general, the set backs are determined by a line drawn from the center of the street up to the horizontal line in the street wall on the street line at the level of the height limit on the street line for that district and street. (See Figures 10 and 11.) In the street in question this horizontal height limit line would



be at a level of 90 feet. These two lines determine a plane which might be called a set-back plane and no portion of the building erected above the height limit can project in front of this set-back plane except as allowed later on in the case of dormers, towers or parapets. (See Figure 12.)

Section 8. Exceptions for all Height Districts: (*a*) In computing the height limit on the street line, a street less than 50 feet wide shall be considered as though it were 50 feet wide and every street or public open space more than 100 feet wide shall be considered to be 100 feet wide.

NOTE.—A building may go just as high under this resolution on a 30 or 35-foot street as it may on a 50-foot street and conversely, a building facing on a street or park or open space more than 100 feet wide including the bordering street may go no higher than it could if it faced on a 100-foot street. The first exception was made to prevent working a hardship on property in the old narrow streets of the city. With a very few rare exceptions no streets are being laid out to-day in New York City less than 50 feet wide. With regard to the latter exception it was felt that buildings facing on parks or open spaces might be allowed to go a little higher than other buildings as far as the street frontage was concerned but, on the other hand, allowing such buildings to go higher would correspondingly interfere with the light and air in the rear and side windows of the neighboring properties behind and on either side of the building in question and it was felt that this disadvantage more than offset any exception which facing on the park might lead the owner to expect in the way of additional height.

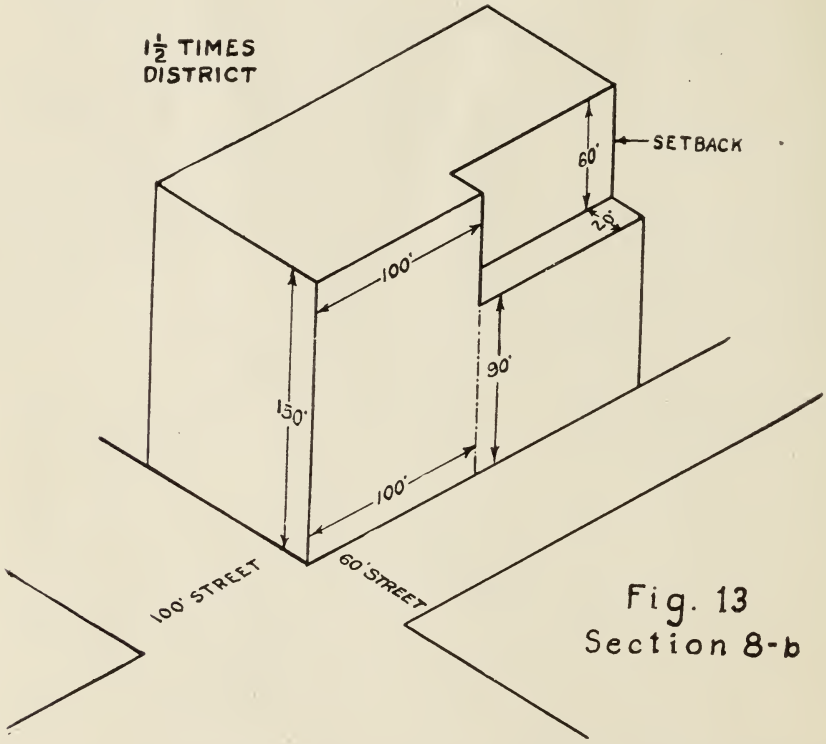


Fig. 13
Section 8-b

(*b*) Along a narrower street where it intersects a wider street, any building or any part of any building fronting on the narrower street within a continuous 100-foot belt back from the side of the wider street shall follow the height regulations provided for the wider street. For each one foot by which such narrower street exceeds 60 feet in width, one and one-half feet may be added to said 100-foot belt.

Note.—Any building or any part of a building within 100 feet of a corner regardless of whether its front actually turns the corner or not and regardless of whether the lot runs through to the wider street or not, may take advantage of the height allowed on the widest of the streets which bound it at the corner. This would mean that on a corner of a 100 and a 60-foot street in a one and one-half times district that an office building or an apartment house might carry 150 feet of height on the street wall back 100 feet on to the side street and from there on down the side street the street wall on the street line could be only 90 feet in height, but the street wall might continue on up to 150 feet in height like the rest of the building provided that the upper 60 feet set back 20 feet from the street line or back to a second line of columns. (See Figure 13.) It is imperative that height limits prescribed for the narrow street, especially where it is 60 feet or less in width, should be rigidly observed more than 100 feet back from a wider street otherwise the whole virtue of these restrictions will be vitiated. If the side street is wider than 60 feet it is reasonable that the height from the main street should carry back further without affecting the light down the block. Thus on a 80-foot side street the 150 feet might carry back 130 feet, on a 90-foot street 145 feet, etc.

(*c*) Above the height limit on the street line dormers and head-houses may be erected on the street line, provided that their aggregate frontage length on such street line be not greater than 60 per cent. of the length on such street frontage of the plot and provided that such percentage shall be reduced by one for every foot of height above the height limit on the street line, and provided that such percentage may be increased by one at any plane parallel with the street frontage for each four inches that it sets back from the street line.

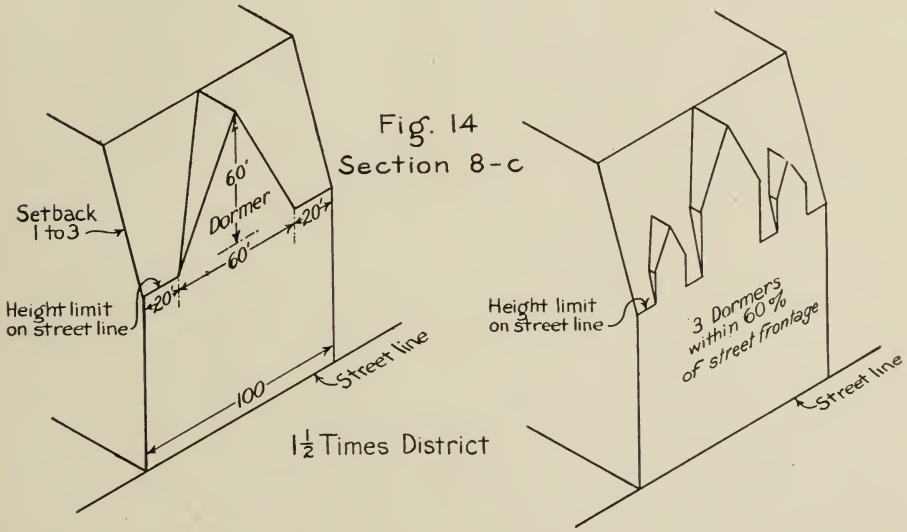
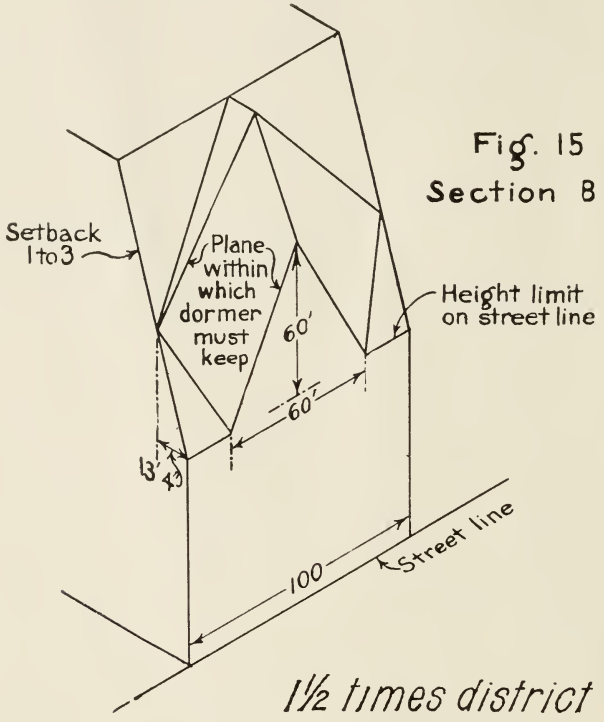


Fig. 14
Section 8-c

Note.—This provision allows for dormers in a mansard roof above the height limit on the street line. It would permit one large dormer on each mansard or a number of small dormers on each mansard provided their aggregate frontage did not exceed the provisions here stated. It would also permit elevator headhouses on or near the street line and permit a tower or belfry or other such feature to be

carried up on the street line, a feature which would hardly be possible under Subsection d, except on a street over 100 feet wide. It would also give more latitude in the construction of a tower at the street line under rule (d). On a 100-foot frontage this dormer provision would mean that the dormer on the street line at the height limit could be 60 feet wide; by the time it had gone up 10 feet it could be only 50 feet wide; by the time it had gone up 30 feet it could be only 30 feet wide, and by the time it had gone up 60 feet it would be reduced to a point. (See Figure 14). It also means that if it set back five feet from the street line it might be 75 instead of 60 feet wide and would come to a point at 75 feet above the height limit, and if it were back 13 feet 4 inches it might cover the whole frontage, but 50 feet above the height limit it could be only 50 feet wide at the front, provided this, of course, would weave in with the set-back provisions and whichever was the less drastic in any particular case would govern. (See Figure 15.)



(*d*) If the area of the building is reduced so that above a certain level it covers in the aggregate not to exceed 25 per cent. of the area of the lot, the street wall of the building above such level may be excepted from the foregoing provisions, and the street wall may be erected to any height provided that such wall be distant at all points at least 75 feet from the center of the street on which it faces; but for each one per cent. of its full possible length that such street wall is decreased, such wall shall be permitted to be erected four inches nearer to the center of the street.

NOTE.—If a street, park or open space is 150 feet or more in clear width in front of a building, a tower may be built directly across the whole front of the building provided it does not cover more than 25 per cent. of the area of the lot. On a

street 100 feet wide a tower could be built across the whole front of the building provided it set back 25 feet from the street line and also did not occupy more than 25 per cent. of the area of the lot. If the building were 200 feet front on a 100-foot

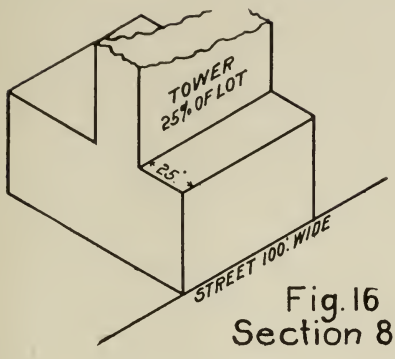


Fig. 16
Section 8-d

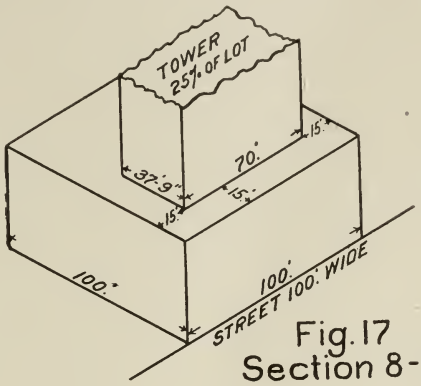


Fig. 17
Section 8-d

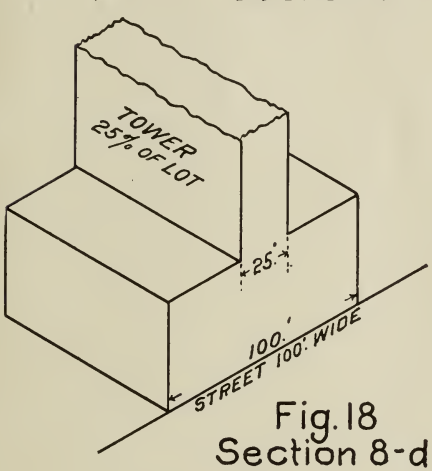


Fig. 18
Section 8-d

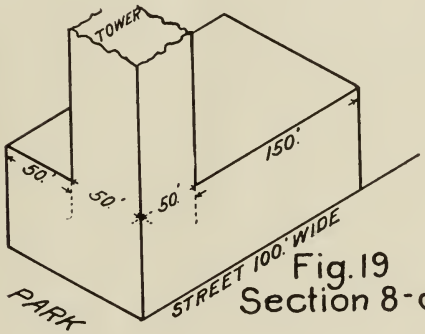


Fig. 19
Section 8-d

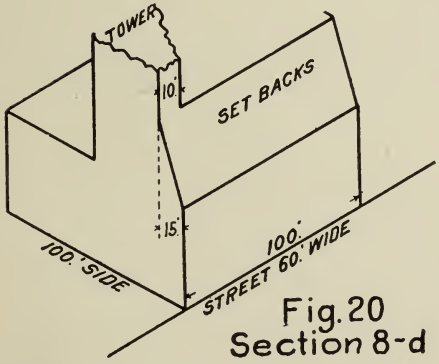


Fig. 20
Section 8-d

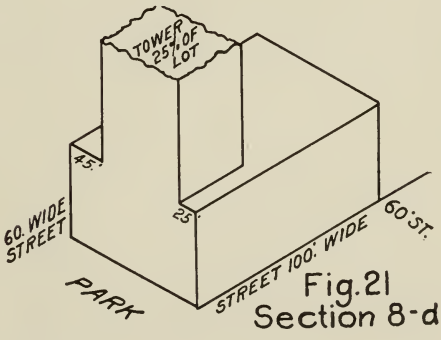


Fig. 21
Section 8-d

street, a tower with a 50-foot frontage might be built on the street line to any height and then splay back on either side in a ratio of one foot in increased width parallel with the street line for every four inches back from the street line, but in no case could a tower occupy more than 25 per cent. of the area of the lot.

A tower on the corner of a park and a 60-foot street could rise directly on the street wall on the park side but would have to set back 45 feet from the 60-foot street line. If, however, its frontage on a 60-foot street was only a quarter of such street frontage, the tower might approach within 20 feet of the street line. The increasing sizes of yards and courts would be constantly operative and it would be necessary to so place the tower that the yard and court provisions would not interfere with it. (See Figures 16 to 21.)

(*e*) When there are existing street walls in excess of the limiting heights as above provided within 50 feet of either end of a street wall of a proposed building or directly opposite such wall across the street, the height to which such proposed street wall may rise shall be increased by an amount not to exceed the average excess height of the existing street walls within 50 feet on either side and directly across the street. The average amount of such excess height shall be computed by adding together the excess heights above the prescribed height limit for the street in question, of all of the street walls of the existing buildings or parts of existing buildings within the above defined area, and dividing the sum by the total number of buildings within such area.

NOTE.—Let us suppose it were proposed to erect a building on an inside lot on a 50-foot street in a two and one half times district and a large building across the street was 525 feet high, an existing building on one side 225 feet high and one on the other side 150 feet high. The height limit on the street would be 125 feet normally. All three of these surrounding buildings are well over that limit; one of them by 400 feet; one by 100 feet, and one by 25 feet, or a total of 525 feet. Dividing by three would give an excess average height of 175 feet, therefore, according to this provision, the proposed building might rise to a height of 125 plus 175 feet, or 300 feet. If at some future time the 225-foot building on one side were to be torn down and a new building erected on this site, the new building could use the 300 feet of the first new building in computing the excess height to which it might rise. Existing buildings lower than the height limit would be considered in this computation as though they were at the height limit. If within 50 feet on either side and directly across the street there were, for example, five buildings, only two of which were higher than the height limit, the excess height of these two buildings would be divided by five in determining the excess height to which the proposed buildings might go. Buildings directly across either street from corner buildings may be considered, but a building diagonally across the corner could not be considered. (See Figures 22 and 23.)

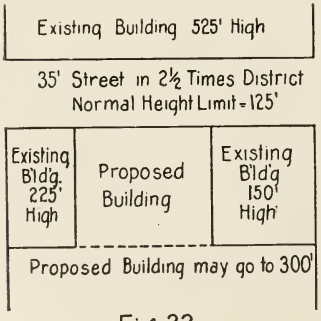


Fig. 22
Section 8-c

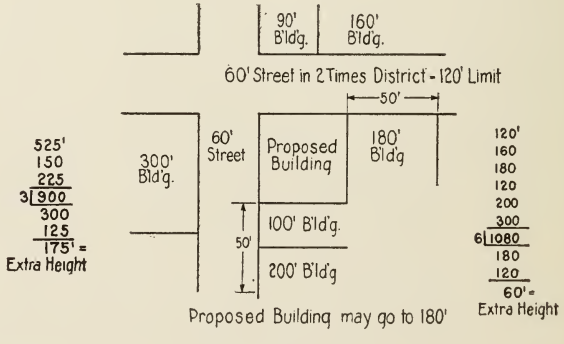
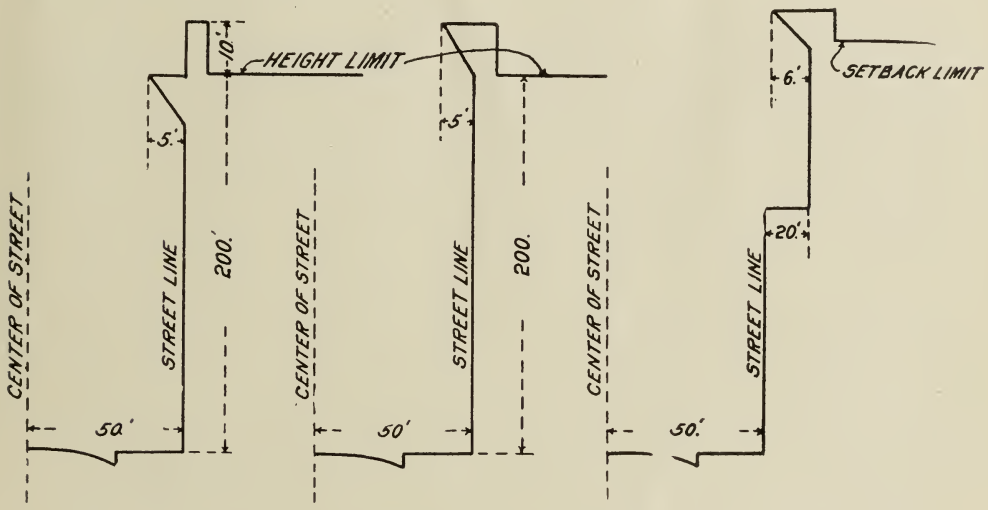


Fig. 23
Section 8-e

(*f*) Nothing in this resolution shall prevent the projection of a cornice beyond the street line to an extent not exceeding five per cent. of the width of the street, nor prevent the erection above the height limit on the street line of a parapet wall or cornice purely for ornament and without windows extending above such height limit not to exceed five per cent. of the latter. Where a cornice or a parapet occurs on a portion of the street wall that sets back from the street line, the mean distance that such portion of the street wall sets back from the street line may be added to the width of the street for the purpose of computing the projection of such cornice or the excess height of such parapet. The provisions of this resolution as to height shall not apply to the erection of church spires, belfries, chimneys, flues or gas-holders.

NOTE.—If a street is 100 feet wide a cornice might project five feet. If the street was 50 feet wide it might project two and one-half feet. It is obvious that a parapet on a set-back portion could be higher than on the street wall. A cornice could project its full five per cent. in front of the parapet wall even above the height limit. If on a 100-foot street a building or the upper stories of the building set back 20 feet from the street line, the cornice might project six feet in front of such set back wall at the height limit. (See Figure 24.)



CORNICES AND PARAPETS IN A 2× DISTRICT

Fig. 24 Section 8-f

(*g*) Where more restrictive height provisions would actually be operative for less than 100 feet along a street frontage between two less restricted districts, the more restrictive of the two latter shall control over such intervening frontage.

NOTE.—Where a narrower street is less than 300 feet long between two wider streets there is no great gain to the side street in stepping down to the lower heights

for the less than 100 feet of frontage; therefore the lower of the two end street heights is allowed to carry across. (See Figure 25.)

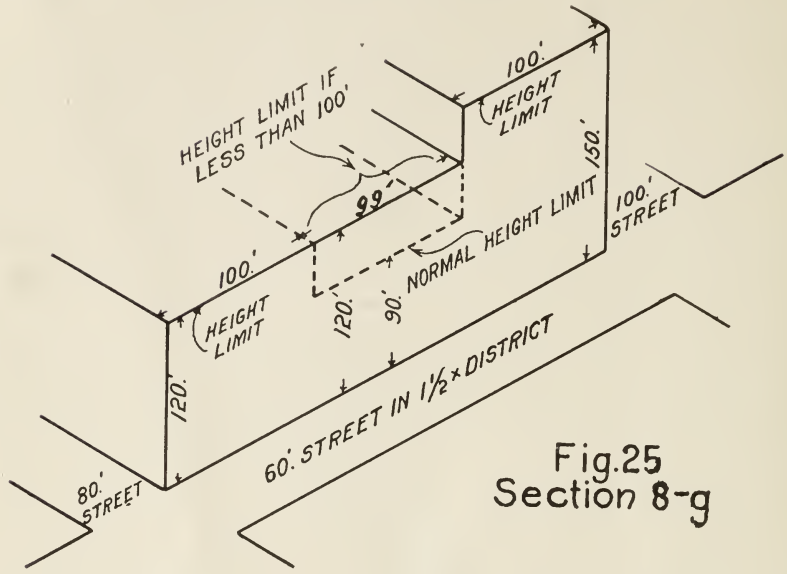


Fig.25
Section 8-g

(*h*) Where 75 per cent. or more of the street wall of a building lies directly opposite to the end of an intersecting street, the height regulations for such street wall shall be determined from the average clear open public space in front of such 75 per cent. or more of such street wall.

Note.—Where a building faces directly down a street it is reasonable to allow it to go a little higher. (See Figures 26 and 27.)

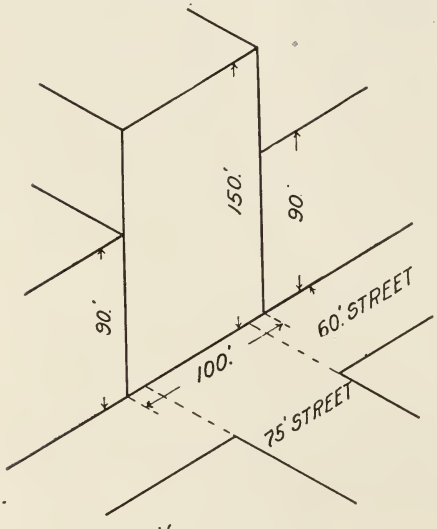


Fig.26
Section 8-h

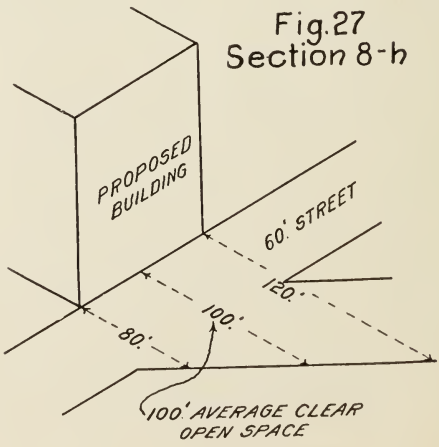


Fig.27
Section 8-h

(*i*) Where the street layout actually on the ground varies from the street layout as shown on the height district map, the designations shown on the mapped streets shall be applied by the building superintendent to the unmapped streets in such a way as to carry out the intent and purpose of the plan for the particular section in question.

NOTE.—See Note to Section 3-f.

Article III—Area Districts

Section 9. For the purpose of regulating and restricting the proportion of the lot covered by buildings hereafter erected and the area and dimensions of yards and courts, the City of New York is hereby divided into five classes of area districts, A, B, C, D and E, as shown on the area district maps which accompany this resolution and are hereby declared to be part hereof. The area districts described on said maps are hereby established. The proportion of the plot covered by buildings hereafter erected shall be regulated as hereinafter specified. In general the depths of yards and the dimensions of courts shall increase proportionately with an increased height of the building, and the minimum depths of rear yards shall be proportionate to the depth of the lot.

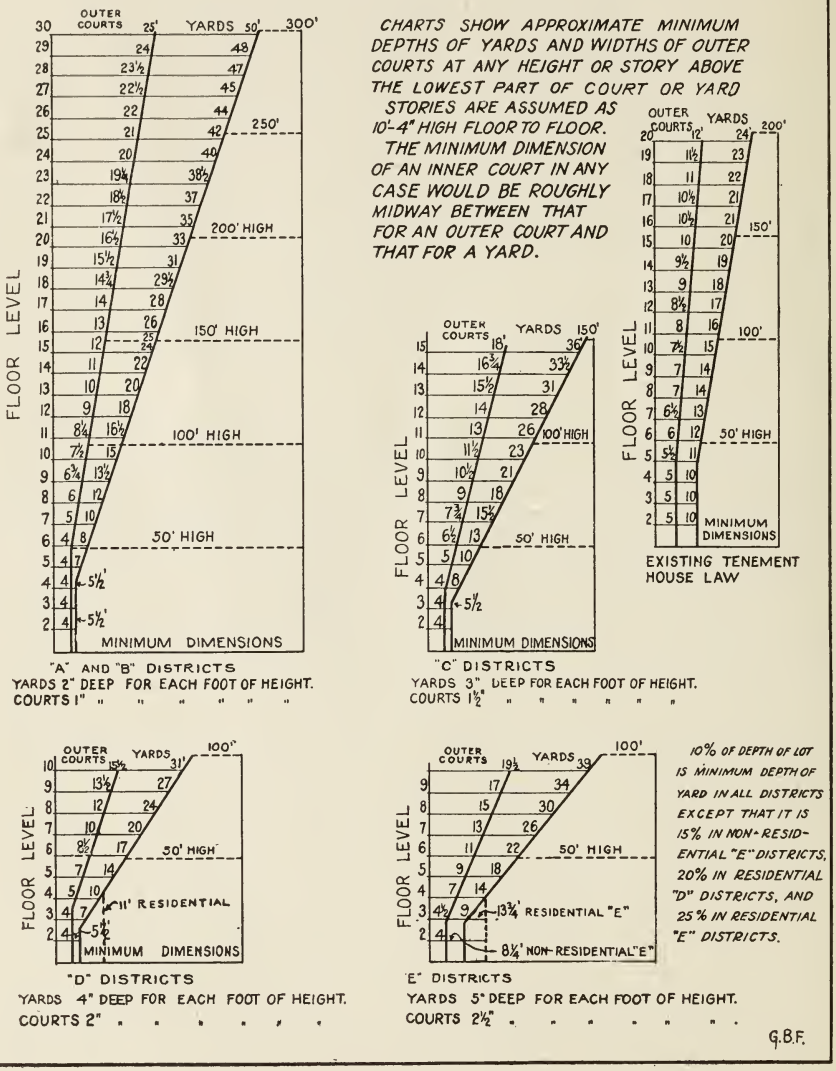
NOTE.—It is the intention of the area restrictions to prevent a man from shutting off or decreasing below a reasonable amount the access of light and air to windows in neighboring buildings, especially on the lower stories. It would also provide for reasonable and adequate lighting of rooms in the lower stories of the building itself where they face a yard or court. Part of the general intent is to provide wherever possible for a common yard space in the center of the block from which all of the abutting buildings could draw light and air.

A Districts: For all buildings, all yards and courts wherever required shall be at least one inch in least dimension for each one foot of height and for each one foot of length from the closed end.

NOTE.—The A districts are intended to make it possible to build warehouses, storage buildings, grain elevators, cold storage plants, etc., buildings which require no light or ventilation from the outside, to occupy 100 per cent. of the lot. The A districts have been located only along the navigable waterfront and along certain freight railways, where such warehouse buildings would be most likely to locate, and also where such buildings would have the least harmful effect on surrounding tenements or factories. The Light and Ventilation ordinance of the Board of Aldermen provides that a court for the lighting and ventilation of any room shall have a width at any point of not less than one inch for every foot in height, and is retained when such dimension is not less than one-twelfth the length of the court, otherwise the latter part of the sentence governs. The provisions with regard to the length of outer courts permit approximately the same length of court in proportion to width as is now allowed under the Tenement House Law. It is understood that any tenement house in an A district would have to conform to the Tenement House Law and any buildings other than warehouses would have to conform to the Light and Ventilation ordinance of the Board of Aldermen. This does not mean that buildings which cover 100 per cent. of their lots must locate exclusively in A districts. In the B, C and D districts which are defined below, a department store, for example, not back to back with another building and with no rooms which would have to face on a legal court under the Light and Ventilation ordinance could occupy 100 per cent. of the lot.

B Districts: For all buildings, rear yards shall be at least two inches in least dimension for each one foot of height. Outer courts and side yards shall be at least one inch in least dimension for each one foot of height.

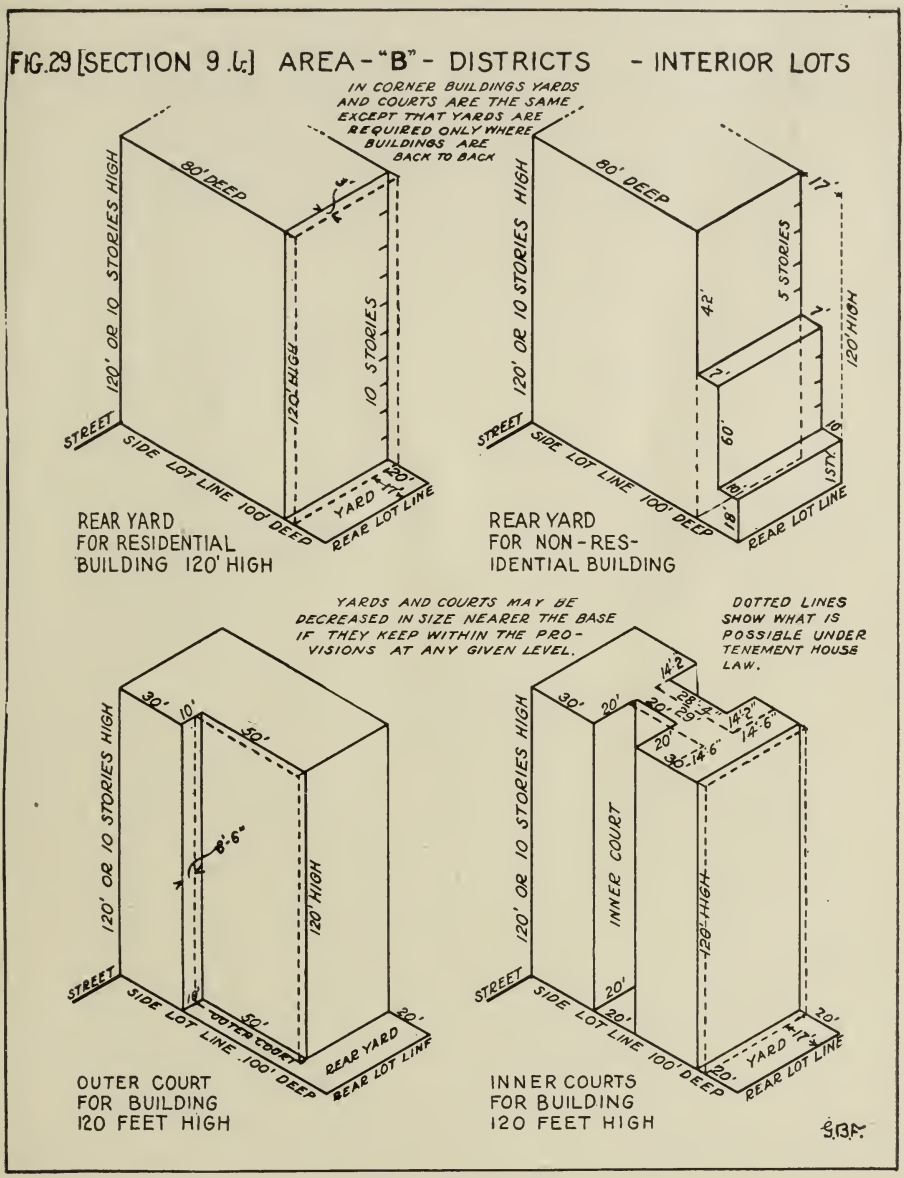
FIG. 28 (SECTION 9) YARDS AND COURTS FOR EACH DISTRICT.



Outer courts shall be at least one and one-half inches in least dimension for each one foot of length from the closed end.

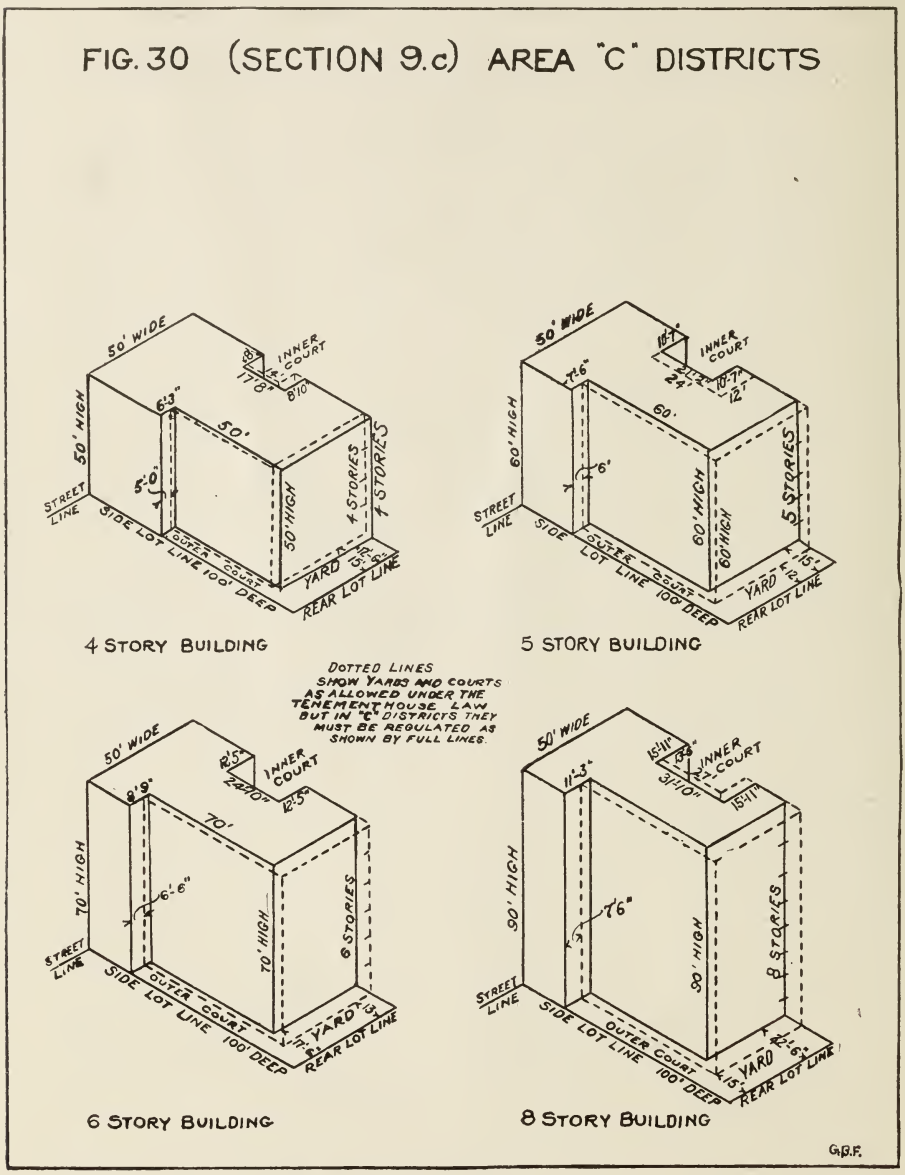
NOTE.—In the B districts all buildings whether stores, offices, factory lofts, hotels or apartments would have to conform to the above provisions with regard to yards and courts which are apprixomately the same as those required by the Tenement House

Law up to between 90 and 100 feet in height. Above that height yards and courts under this resolution would have to be a little larger and become increasingly larger as the building went up in height. Where a building is back to back with another building a required rear yard at 150 feet in height would have to be 25 feet in least dimension; at 90 feet in height it would have to be 15 feet in least dimension, all heights being taken



from the curb level where they relate to tenements. An outer court at 150 feet in height at the top would have to be 12½ feet in least dimension if more than eight times its width, in length, it would have to be widened out somewhat at the open end. At 90 feet in height, such outer court would have to be 7½ feet in width. Inner courts would be

about half way between the required yard and the outer court in dimensions. For example, in a building 150 feet high, an inner court at the top could be 25 feet square or a little less than 18x36 feet; at 90 feet in height at the top it would have to be 15 feet square or contain 225 square feet, provided that it were not more than twice as long as it were wide for that area. In the case of a building which was not back



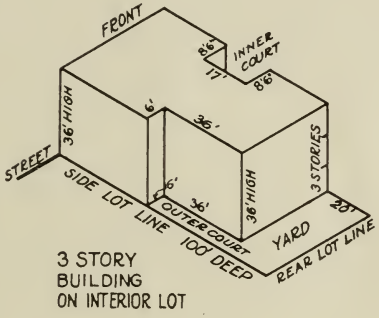
to back with another building, an outer court could use the minimum provisions here stated for outer courts only in case the rear yard on which it opened was of the dimensions here given for an inner court; that is to say, at 150 feet in height, 25 feet square or 18 x 36 feet, or with dimensions somewhere between, giving an area of 625 feet.

C Districts: For all buildings, rear yards shall be at least three inches in least dimension for each one foot of height. Outer courts and side yards shall be at least one and one-half inches in least dimension for each one foot of height. Outer courts shall be at least one and one-half

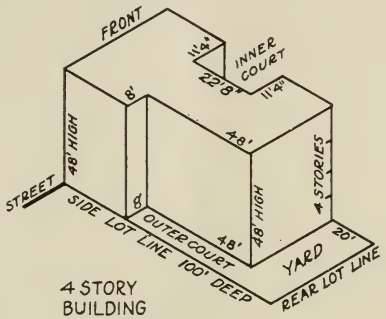
Fig. 31. Section 9-d. AREA "D" DISTRICTS.

MINIMUM SIZES OF YARDS, AND OF COURTS IF PROVIDED, ARE SHOWN BELOW. THESE ARE NOT INTENDED AS TYPICAL PLANS FOR BUILDINGS.

WHERE A BUILDING OCCUPIES MORE THAN 60 PER CENT OF AN INTERIOR LOT OR MORE THAN 80 PER CENT OF A CORNER LOT THE SIZES OF YARDS OR COURTS OR BOTH MUST BE INCREASED UNTIL THE PERCENTAGE REQUIREMENTS ARE COMPLIED WITH.

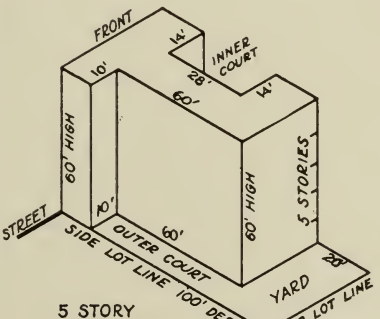


3 STORY BUILDING ON INTERIOR LOT

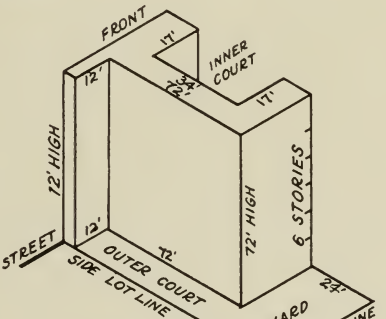


4 STORY BUILDING ON INTERIOR LOT

LENGTH OF OUTER COURT IN EACH CASE IS THE MAXIMUM POSSIBLE FOR THE MINIMUM PRESCRIBED WIDTH.



5 STORY BUILDING ON INTERIOR LOT



6 STORY BUILDING ON INTERIOR LOT

G.B.F.

inches in least dimension for each one foot of length from the closed end. On a plot 30 feet or less in average width, outer courts and side yards shall be not less than one inch in least dimension for each one foot of height and

inner courts shall be not less than two inches in least dimension for each one foot of height or of equivalent area as specified in Section 12b.

NOTE.—In a C district the prescribed minimum size of yards and courts remains about the same as under the Tenement House Law up to and including five stories in height. Above that height, however, they gradually become more stringent than under the Tenement House Law. In a building five stories, or approximately 56 feet in height, a rear yard under these provisions would have to be 14 feet wide at the top or two feet wider than required under the Tenement House Law. An outer court would have to be seven feet wide or one foot wider than required under the Tenement House Law. An inner court would have to be 14 feet square or a little less than 10 x 20 feet while under the Tenement House Law an inner court on the lot line would have to be 12 x 24 feet and 24 x 24 feet where completely enclosed by the building. However, the 70 per cent. clause in the Tenement House Law is very apt to require increases from the minimum widths and depths of courts and yards greater than the difference between this resolution and the Tenement House Law. An outer court seven feet wide could be almost 60 feet long before it would have to be widened out at its extreme end. A special exception for outer and inner court provisions was made in lots 30 feet or less in width on account of the extra difficulties of planning practicable buildings for such lots. On a lot 30 feet or less in width an outer court in a building five stories or 56 feet high need not be more than four feet eight inches wide under this resolution, although under the Tenement House Law it would have to be at least five feet wide. For a width of five feet it could be 40 feet long, but if it were desired to make the outer court sixty feet long, the 20 feet nearest the open end would have to be 7½ feet wide. The side yard of such building need not be over four feet eight inches wide through from street to prescribed rear yard. An inner court in such a building under this resolution might be about 6½ x 13 feet, although under the Tenement House Law it would have to be at least 8 x 14 feet. These narrow lots are virtually put in the "B" districts except for the rear yards.

D Districts: The area of a residential building shall not exceed 60 per cent. of the area of an interior lot or 80 per cent. of the area of a corner lot. The depth of a required rear yard for a residential building shall be at least 20 per cent. of the depth of the lot, but in no case need it exceed 20 feet at the base. For all buildings rear yards shall be at least four inches in least dimension for each one foot of height and courts and side yards at least two inches in least dimension for each one foot of height. Outer courts shall be at least two inches in least dimension for each one foot of length from the closed end. On a plot 30 feet or less in average width the least horizontal dimension of outer courts and side yards shall be not less than one and one-half inches horizontally for each one foot of height and outer courts shall be not less than one and one-half inches in least dimension for each one foot of length from the closed end. On such plots inner courts shall be not less than three inches in least dimension for each one foot of height or of equivalent area as specified in Section 12b.

NOTE.—The D districts are intended primarily to preserve one and two family house districts, especially where houses occur in rows. They do not preclude tenement houses. They do, however, demand that the sizes of yards and courts shall be about double those required for buildings in the B districts. A tenement or apartment house on an interior lot in a D district covering 60 per cent. of its lot and four stories or 44 feet in height on a lot 100 feet deep would have a rear yard 20 feet deep; an outer court would have to be at least 7 feet 4 inches wide and not over 44 feet long for such

width. If the outer court were longer the open end would have to be wider; an inner court of such a building could be 14 feet 8 inches square or about 10½ feet x 21 feet. (See Figure 31.) In the case of a building on a plot 30 feet or less in width, the sizes of outer courts and side yards and inner courts would be the same as required for buildings on plots over 30 feet wide in the C districts. In the case of a one or two family house, three stories or approximately 34 feet in height, the rear yard would be 20 feet deep; an outer court would be 4 feet 3 inches wide and a little less than 34 feet long without being wider at its open end. An inner court would be 8 feet 6 inches square or about 6 x 12 feet.

E Districts: On an interior lot the area of a residential building with its porches, wings and accessory buildings shall not exceed at the curb level, more than 50 per cent. of the area of the lot, nor on a corner lot more than 70 per cent. of the area of the lot, and above a level 18 feet above the curb, the building shall not exceed 30 per cent. of the area of an interior lot or 40 per cent. of the area of a corner lot. For all buildings rear yards shall be at least five inches in least dimension for each one foot of height and courts and side yards at least two and one-half inches in least dimension for each one foot of height except that on lots 50 feet or less in average width courts and side yards shall be at least two inches in least dimension for each one foot of height. For a residential building the depth of a required rear yard shall be at least 25 per cent. of the depth of the lot but in no case need it exceed 25 feet at the base. For a non-residential building the depth of a required rear yard shall be at least 15 per cent. of the depth of the lot, but it need not exceed 15 feet at the base. On at least one side of every residential building there shall be a side yard along the side lot line for the full depth of the lot or back to the prescribed rear yard. Outer courts shall be at least two and one-half inches in least dimension for each one foot of length from the closed end.

Note.—The E districts are intended primarily to preserve detached and semi-detached house districts with light and air on all sides of the buildings. In most cases an E district house would be on a lot not less than 40 x 100 feet. On such a lot 30 per cent. of the lot area above the ground story would equal 1,200 square feet, giving a house 30 x 40 feet in size. On a lot 50 x 100 feet this would allow 1,500 square feet, giving a house 30 x 50 feet in size. A rear yard for such a house for lots 100 feet deep would be 25 feet deep at the ground story, except that garages and other out buildings might occupy 40 per cent. of such rear yard area, and in an ordinary 2½ story house, approximately 25 feet high, an outer court or side yard would be at least 5 feet 2½ inches wide. Such a side yard is required only on one side of a house. However, if a lot is 50 feet or less in width, a side yard of this sort for a 2½ story house could be reduced to 4 feet 2 inches. The 50 per cent. allowance on the ground story would allow for one-story wings, bay windows, porches, etc.

In the case of a non-residential building on a 100-foot lot the rear yard would have to be only 15 feet deep and no limitation is placed on the percentage of the lot which the building may cover. The court provisions, however, remain the same. It would be possible to build an apartment house in an E district provided it conformed with these percentage and yard and court requirements. (See Figure 32.)

Section 10. Percentage of Lot Occupied: (*a*) Measurements of lot area for any building shall not include any portion of a street or alley. Any part of the area of a corner lot in excess of 5,000 square feet shall be

treated, for the purpose of computing the percentage of the lot that may be occupied, as though it were an interior lot.

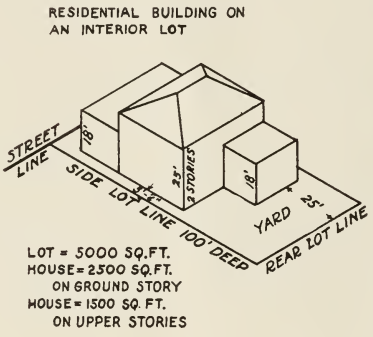
NOTE.—In a D district a building on a corner lot 100 x 100 feet could occupy 80 per cent. of the 5,000 square feet on the corner and 60 per cent. of the remaining 5,000

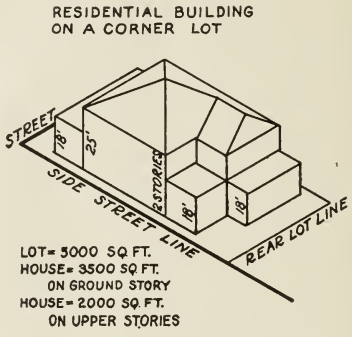
Fig.32 SECTION 9, e. AREA - E - DISTRICTS

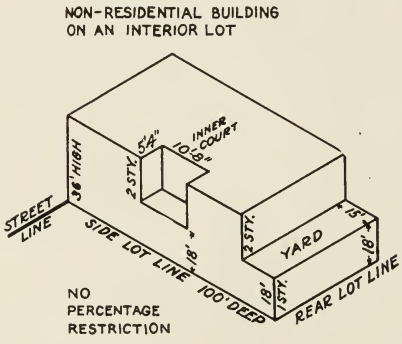
THE EXAMPLES SHOWN BELOW ARE POSSIBLE TYPICAL BUILDINGS.

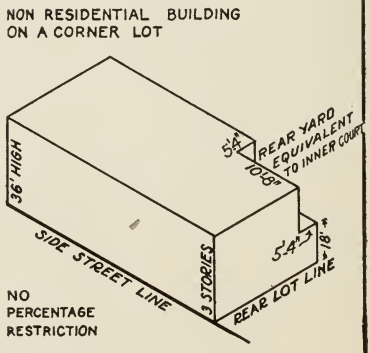
PERCENTAGE LIMITATIONS APPLY ONLY IN THE CASE OF RESIDENTIAL BUILDINGS.

HOUSES IN ROWS CAN NOT BE BUILT AS ALL RESIDENTIAL BUILDINGS MUST KEEP AWAY FROM AT LEAST ONE SIDE LOT LINE.







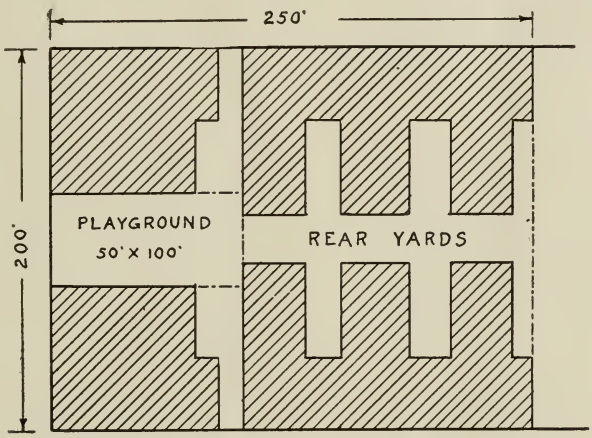


square feet or an average of 70 per cent. for the whole plot. If the actual lot on the corner contains less than 5,000 square feet the adjoining lots if not corner lots themselves would be considered as strictly interior lots just the same.

(*b*) The owner or owners of any portion of a D district may by

setting aside perpetually, for the joint recreational use of the residents of such portion, an area equal to 10 per cent. of such portion in addition to all other yard and court and percentage requirements for C districts, have the right to build under the C district regulations. Such joint recreational space must be at least 40 feet in its least dimension and must contain at least 5,000 square feet and must be approved by the superintendent of buildings as suitable for the joint recreational use of such residents. Subject to similar regulations, the owners of any portion of a C district may have the right to build under the B district regulations.

NOTE.—It is believed that the recreational problem is so important in residential districts that it is worth while to make a concession in the yard and court provisions in order to obtain additional space for playground use and, therefore, this arrangement was made whereby an individual developer or a group of property owners may, by giving up 10 per cent. additional of their space, be relieved from the yard and court requirements of the district in which they are located and follow instead the yard and court requirements of the next less restricted district. With the proviso that the 10



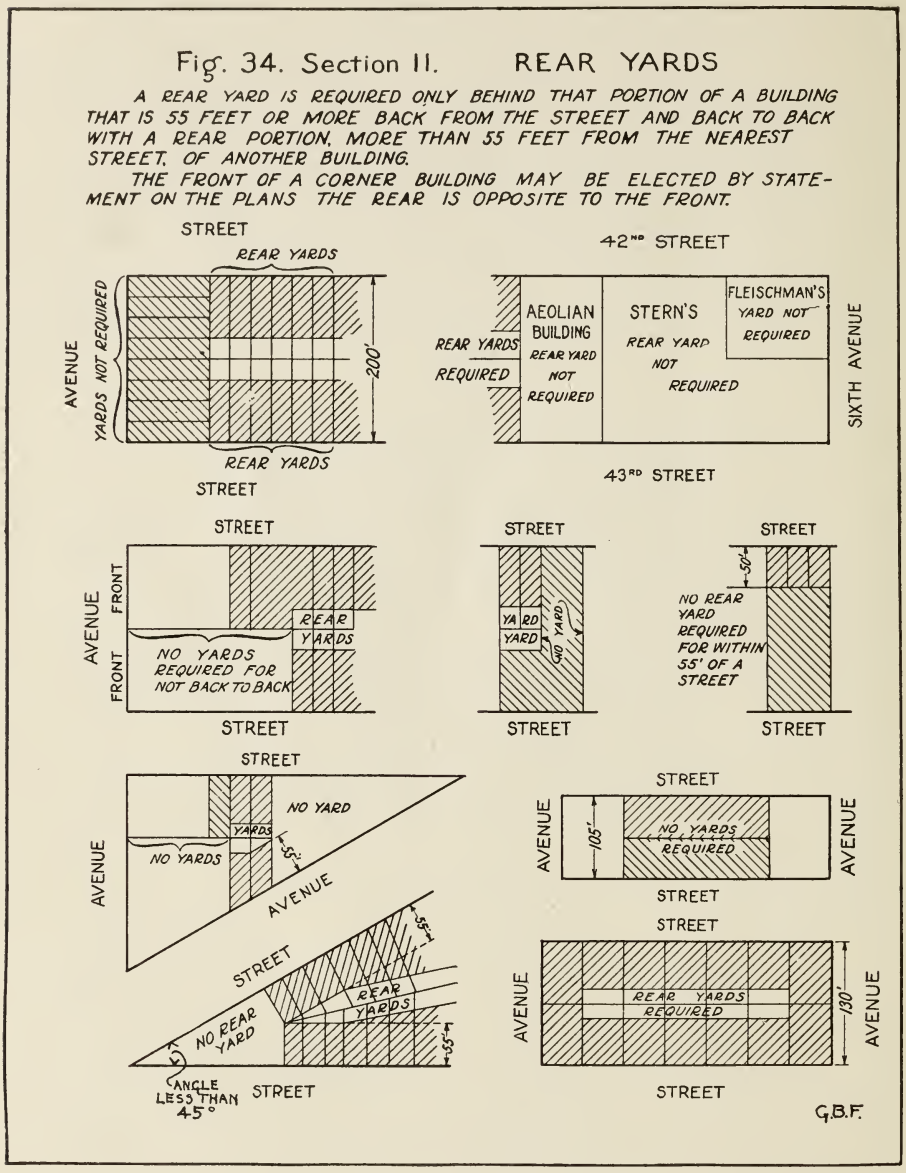
ONE PROPERTY IN "C" DISTRICT
50 X 100 IN PLAYGROUND IN ADDITION
TO "B" DISTRICT PROVISIONS.

Fig. 33 Section 10-b

per cent. must equal at least 5,000 square feet it is obvious that the plottage which could provide this space would have to be at least 50,000 square feet or on a block end it would have to run back 250 feet into the block. The 10 per cent. given up for recreational use might be provided in the center of the block in addition to the required yard space or it might be in any lot or lots running through to any bounding street, or it might be on an adjoining lot. Of course, this 10 per cent. would have to be in addition to any yard and court provisions required in this resolution and also in addition to the requirements of the Tenement House Law if they were greater than those in this resolution. (See Figure 33.)

Section 11. Rear Yards: (*a*) At and above a level 18 feet above the curb of every building hereafter constructed, except for buildings in A

districts, there shall be a rear yard opposite every part of a rear wall that is 55 feet or more back from the nearest street and which is back to back with a rear portion, more than 55 feet back from its nearest street, of any



other property. Within 55 feet of the nearest street no rear yard or part of a rear yard shall be required.

NOTE.—In this rule it is assumed that within 55 feet of a street a building can be lighted directly from the street. If a block is 110 feet deep through from street to street under ordinary conditions it would hardly be necessary or practicable to demand

rear yards but when the block becomes deeper than that rear yards become more and more necessary. (See Figure 34.) On a lot 60 feet deep a rear yard would be five feet deep; on a lot 65 feet deep in an A, B or C district, for example, a rear yard would be 6 feet 6 inches deep; on a lot 80 feet deep under similar conditions a rear yard would be 8 feet deep and so on. If a block were 200 feet through from street to street and two lots were back to back with one another, one of them 50 feet deep and the other 150 feet deep, no rear yards would be required for either building except that the building on the lot 150 feet deep would have to conform to subsection d of this same section according to which such a property would have to leave unoccupied space equivalent to what it would have to leave open in rear yards if it were two separate lots for which rear yards were required.

(*b*) In the case of a residential building, on an interior lot, a required rear yard shall extend for its full area down to the curb level, except that the usual accessory buildings not over 18 feet above the curb may cover not over 40 per cent. of the prescribed area of the yard. Except as otherwise provided for Districts D and E, the depth of a required rear yard at its lowest level shall be at least 10 per cent. of the depth of the lot, but need not exceed 10 feet at such level. Any portion of a required depth of a rear yard in excess of 10 feet shall not be required, provided that an equivalent depth be left unoccupied above the curb level, across the whole width of the lot between the street line and the street wall of the building.

NOTE.—When this section states that the rear yard need not exceed 10 feet at the base it means that the depth of 10 feet at the base required on a lot 100 feet in depth need not be exceeded in lots of greater depth. In any building which occurs in a residence district, even though it be a church, a club or a school, a required rear yard would have to run down to the ground except that garages and other out build-

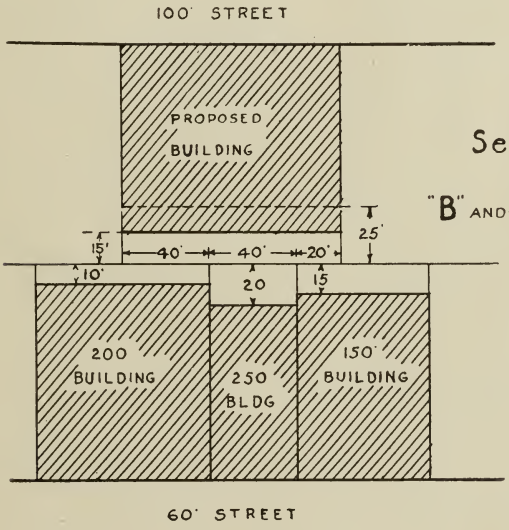


Fig. 35
Section 11-c

"B" AND 1½ TIMES DISTRICT

40 X 10 = 400 SQ FT
40 X 20 = 800 SQ FT
20 X 15 = 300 SQ FT

100) 1500

15 FEET

= FINAL DEPTH OF REAR YARD ALTHOUGH OTHERWISE, FOR A 150' BUILDING, IT WOULD 25' DEEP

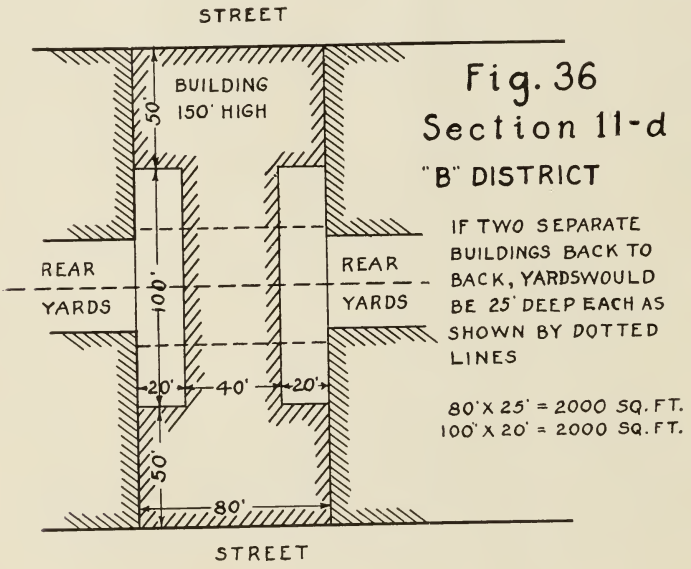
ings may occupy 40 per cent. of the required rear yard space but they must not be over one story high. In D and E districts houses often set back from the street line. Where a lot is shallow it is often impracticable to leave a 10 to 30-foot setback in front and at the same time a rear yard 20 or 25 feet deep. To remedy this it is proposed to

allow a man to have a shallower rear yard down to 10 feet provided that he give up a corresponding front yard back of his street line.

(*c*) When a proposed building is back to back with an existing building or buildings whose rear yards are less than those required in this resolution the building superintendent may allow the depth of the rear yard in the proposed building to be not less than the average depth of the rear yards directly in the rear, but not above the average height of such buildings.

NOTE.—In various instances, particularly in Manhattan, existing loft, warehouse and even office buildings, have been erected, sometimes to 12 or more stories in height, with rear yards considerably less in depth than would be required under this resolution. In fairness to a person who would erect a new building back to back with such buildings this section would permit him to make his rear yard about the same as the average of his back to back neighbors' yards. In determining such an average of back to back yards a rear yard as large or greater than that required under this resolution, would be reckoned as though it were of the size here required, in determining the average. Above the top of an existing building its rear yard would be reckoned as though it were of the required size. (See Figure 35.)

(d) Where a building on an interior lot between lots for which rear yards are required runs through the block from street to street or to within 55 feet of another street, it shall leave unoccupied at any height above the ground story an area at least equivalent to that which it would have to



leave at such height for both lots in case it were two separate buildings on separate lots back to back.

NOTE.—Under the Tenement House Law a building which runs through the block or from street to street not on a corner has to be built around a rear yard and thus the building is divided in two entirely separate units. In many non-residential buildings this is impracticable and therefore it is suggested that if a building runs through the block from street to street it contributes to the common light and air of the

common rear yard spaces in the center of the block by giving up an unoccupied space above the ground story equal in area to the two back to back rear yards that would have been provided in case the plot had been considered as two separate plots back to back. (See Figure 36.)

Section 12. Courts: (*a*) In every building hereafter constructed in which a room in which persons live, sleep, work or congregate receives its light and air in whole or in part from a court or yard, at least one court or yard having a window opening from such room shall conform to the requirements of this resolution. In a required court or side yard the least horizontal dimension shall be not less than four feet.

NOTE.—A room which is lighted and ventilated from the street and also from a court or yard would have to have one of its court or yard windows open on a court or yard of the sizes herein prescribed. Any room which was lighted or ventilated entirely from yards or courts would have to open on at least one of the prescribed size.

(b) When a court is located along a side of a lot, the lot line shall be deemed an enclosure of such court. Where a court opens on a street or public open space, such street or public open space may be considered as part of that court. The least horizontal dimension of an inner court in any given district at any height above the curb shall be not less than that

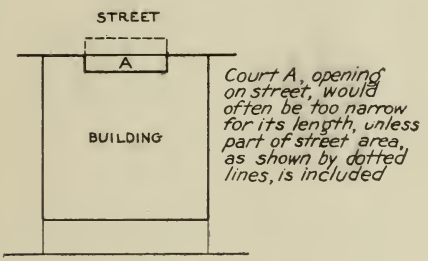


Fig. 37 Section 12-b

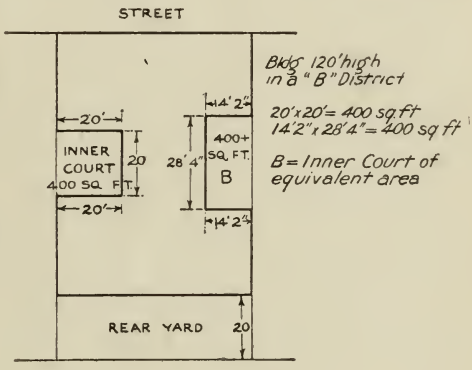


Fig 38 Section 12-b

required for a yard, in inches for each foot of height, in the same district at the same height, except that a court of equivalent area may be substituted for such required court provided that for such area its greatest dimension be not more than twice its least dimension. Corners of prescribed courts may be cut off provided that the running length of the wall at the angle of the court does not exceed seven feet.

NOTE.—No outer court, inner court or side yard on the lot line can or should in any way take advantage of existing courts or yards on neighboring property because there is no guarantee of permanency of such neighboring yards or courts and therefore it is important that yards and courts should be sufficient to take care of their lot without being dependent on their neighbors. A court corner may be cut off at an agle of 45 degrees, for example, and the length of the cut may be as long as seven feet, in conformity with the practice under the Tenement House Law.

This would not affect the size of yards and courts but would affect the remaining percentage of the lot occupied. In general the area of inner courts is equal to the square of the least dimension of a required rear yard at the same distance above the ground. It is or would be the square of the least dimension in inches per foot of height above the bottom of the court and not the square of the minimum depth of the rear yard as specified in terms of its ratio to the depth of the lot. This would mean that in B districts with a building 150 feet high, the depth of a rear yard could be 25 feet and the area of an inner court would be 25 x 25 feet or 625 square feet, but such an inner court would not have to be square, it might be any shape provided that it was not more than twice as long as it was wide for such 625 square feet. After the first 625 square feet were satisfied, however, any additions might be made to the court as seemed desirable. A possible equivalent of a court 25 feet square would be one a little over 18 x 36 feet. (See Figure 38.)

Section 13. Exceptions to Yard and Court Provisions: (*a*) Every part of a required court or yard shall be opened from its lowest point to the sky unobstructed, except for the ordinary projections of skylights above the bottom of such court or yard and except for the ordinary projections of window sills, belt courses, cornices and other ornamental features to the extent of not more than four inches. Open or lattice enclosed iron fire-escapes, fireproof outside stairways or solid-floored balconies to fire towers projecting into the yard or court not more than four feet may be located in the required rear yards or inner courts with the appoval of the building superintendent.

Note.—The provisions for skylights and projections beyond the walls of yards and courts follow the Building Code. The provisions with regard to fire-escapes, fireproof outside stairways and solid-floored balconies to fire towers are in general the rulings of the Tenement House Department. As it is not desirable that fire-escapes, etc. should project four feet into an outer court no allowance for the same is made.

(*b*) With the approval of the building superintendent chimneys or flues may be erected within prescribed yards provided they do not exceed five square feet in area and do not obstruct light and ventilation.

Note.—It is most important that flues and stacks be located in rear yards only and there only where they will do the least harm. In no case should such stack exceed five square feet in area.

(*c*) If more than one building is hereafter placed on any lot, or, if any building is placed on the same lot with an existing building, the several buildings may, for the purposes of this resolution, be considered as a single building. Any structure, whether independent or attached to a building, shall, for the purposes of this resolution, be deemed a building or a part of a building. If two or more buildings are erected upon contiguous plots and are to be used as connected parts of a single establishment, the several buildings shall be considered as parts of one building in applying the provisions of this resolution. If one or more buildings not fronting on a street are erected in the rear of another building fronting on the same street, and are to be used as connected parts of a single establishment, the several buildings shall be considered as parts of one building in applying the provisions of this resolution.

NOTE.—It is the intent of this section that all structures placed on one plot that are in any way related to one another shall be considered as parts of one building in determining the sizes of common yards and courts. Where additions are made to an existing plan, even though they may be on separate lots adjacent on either side or to the rear, it is highly desirable that the whole plot should be considered as a unit in reckoning the distribution and sizes of yard and court spaces.

(*d*) Where the street layout actually on the ground varies from the street layout as shown on the area districting map, the designations shown on the mapped streets shall, with the approval of the building superintendent, apply to the unmapped streets in such a way as to carry out the intent and purpose of the plan for the particular section in question.

NOTE.—See the same section for Use Districts, Section 3, f.

(*e*) Where an area district boundary line divides a plot in a single ownership at the time of passage of this resolution, the area regulations for either portion of the lot shall, with the approval of the building superintendent, extend to the entire plot, but not more than 25 feet beyond the boundary line of the district for which such area regulations are authorized.

NOTE.—See Notes on similar section for use districts, Section 3, b.

(*f*) With the approval of the building superintendent a single building may be authorized to extend back into a more restricted district under such conditions as will safeguard the character of the more restricted district.

NOTE.—See Notes on similar section for use districts, Section 3, c.

Article IV—General and Administrative

Section 14. Existing Buildings and Uses: Nothing herein contained shall require any change in the plans or construction of a building or in its designated use for which a permit has been heretofore approved or plans for which are on file with the building superintendent at the time of the passage of this resolution and a permit therefor is issued within three months of the passage of this resolution, and the construction of which is diligently prosecuted within a year of the date of such permit, and at least the whole ground story of which shall have been completed within such year and the complete erection of the building as planned shall have been effected within five years from the date of passage of this resolution.

If a structure or building now existing shall hereafter be wholly or in part removed or destroyed, whatsoever may be the cause, purpose or manner of its removal or destruction, it shall not be rebuilt or restored unless it conforms with the provisions herein prescribed; but, except as otherwise provided in Section 3-a, nothing in this resolution shall prevent the restoration of a building or industrial plant which is damaged less than 50 per cent. of its structural parts or the restoration of a wall declared unsafe by the superintendent of buildings. No building now existing or hereafter erected shall be so altered or enlarged as to bring it in violation of any of the provisions of this resolution, nor shall any lot area be so reduced or diminished that the unoccupied areas shall be less than required by this

resolution. When additional stories, for which plans have not been filed at the time of passage of this resolution, are added in the future to existing buildings, the requirements of this resolution as to setbacks shall start at the top of the existing walls, if they are over the prescribed height limit, and the least dimensions of yards or courts shall be computed from the top of the existing yard or court walls, as though they were of the prescribed sizes at such heights, and the carrying up of existing elevator and stair enclosures shall be exempted from such provisions.

NOTE.—This resolution will not affect any building the plans for which have been filed at the time of passage of this resolution. However, if a building is torn down it could be rebuilt only under the terms of this resolution except where it was less than half destroyed by fire or otherwise and except where allowed by the building superintendent under Section 3a. Once a required yard or court space for a given building has been determined such space cannot be sold but must remain inalienably dedicated to the exclusive use of the building it was set apart for. No other building even on the same lot can use it as a part of its required yard or court space.

Where within a year after the passage of this resolution and the receiving of a permit, a building has been completed up as far as the second story at least and plans had been filed previous to the passage of this resolution for a building over it which would be beyond anything herein permitted, five years would be allowed for its final completion but after five years nothing further on the plans could be built except in accordance with this resolution.

Whenever in the future stories are added to an existing building the top of the existing street walls, if they are over the height limit, shall be taken to be at the height limit, for the purpose of computing setbacks and the existing yards and courts shall be taken to be of the prescribed sizes, even though they may be less, for the purpose of continuing up the yard or court walls.

Section 15. Unlawful Use; Certificate of Occupancy: It shall be unlawful to use or permit the use of any building or premises hereafter created, erected, altered, changed or converted wholly or partly in its use until a certificate to the effect that said structure, building, premises or places and the use thereof conforms to all of the requirements of this resolution shall have been issued by the superintendent of buildings of the borough in which said building or premises are located. It shall be the duty of the superintendent of buildings to issue a certificate of use within 20 days after a request for the same shall be filed in his bureau by any owner of a structure, building or premises affected by this resolution, provided said building or premises conforms with all the requirements herein set forth. It is provided, however, that in the case of tenement houses such certificate of occupancy shall be issued by the tenement house commissioner.

NOTE.—This certificate of occupancy is in line with that required under the Building Code, but for the purposes of this resolution, in particular the enforcement of the "use district" regulations, it is most important that the certificate be based on the use definitions and classifications of this resolution.

Section 16. Enforcement, Legal Procedure, Penalties: This resolution shall be enforced by the tenement house commissioner, the fire commissioner and by the superintendent of buildings in each borough under the rules and

regulations of the Board of Standards and Appeals. The superintendent of buildings shall in each borough enforce the provisions herein contained in so far as such enforcement can be effected through the issue of the building permit and the certificate of occupancy. The fire commissioner shall enforce the provisions herein contained in so far as they relate to the use of buildings or premises. The tenement house commissioner shall, subject to the rules and regulations of the Board of Standards and Appeals, have exclusive jurisdiction to enforce the provisions herein contained in so far as they affect or relate to tenement houses. Any and every violation of the provisions of this resolution or of the rules and regulations adopted thereunder shall subject the owner, agent, contractor, lessee or tenant of a building or premises where such violation has been committed or shall exist and the agent, architect, builder, contractor, or any other person who has assisted in the commission of such violation or who maintains any building or premises in which such violation exists to the same legal procedure and the same penalties as are prescribed in any law, statute or ordinance for the violations of the Building Code, and such violations shall be subject to the same legal remedies and prosecuted in the same manner prescribed in any law or ordinance for violations of said Building Code.

NOTE.—The building superintendents, the fire commissioner and the tenement house commissioner each will enforce that which is assigned to his jurisdiction under the law. The fire commissioner under his "housekeeping" functions would enforce the "use" provisions. The tenement house commissioner would enforce everything that had to do with tenement houses, but wherever the provisions of this resolution were more drastic than the Tenement House Law he would be subject in his enforcement of such provision to the rules of the Board of Standards and Appeals. All other matters including the withholding of building permits or certificates of occupancy would be under the building superintendents subject to the control of the Board of Standards and Appeals and the Board of Appeals.

Section 17. Rules and Regulations; Modifications of Provisions: The Board of Standards and Appeals shall adopt from time to time such rules and regulations as they deem necessary to carry into effect the provisions of this resolution. Under the rules and regulations prescribed by the Board of Standards and Appeals the application in a specific case of the provisions of this resolution may be varied in harmony with its general purpose and intent. Where by the terms of this resolution the superintendent of buildings may approve certain exceptions to the general provisions of this resolution such approval shall be after notice and hearing, and appropriate conditions and safeguards may be attached to such approval.

Section 18. Amendments, Alterations and Changes in District Lines; Method Provided: Whenever the owners of 50 per cent. or more of the frontage in any district or part thereof shall present a petition duly signed and acknowledged to the Board of Estimate and Apportionment requesting an amendment, supplement, change or repeal of the regulations prescribed for such district or part thereof, it shall be the duty of this Board to vote upon said petition within 90 days after the filing of the same by the peti-

tioners with the Secretary of this Board. If, however, a protest against such amendment, supplement or change be presented, duly signed and acknowledged by the owners of 20 per cent. or more of the frontage proposed to be altered, or by the owners of 20 per cent. of the frontage immediately in the rear thereof, or by the owners of 20 per cent. of the frontage directly opposite the frontage proposed to be altered, such amendment shall not be passed except by the unanimous vote of the Board.

Note.—This is intended as a ready method of changing an individual block front or a small district from business to residence or vice versa or for the creation of new E districts. However, it is realized that in any case districting must be stable, otherwise a man will never know what to count on, and thus will be as badly off as with no districting; therefore it is provided that if one-fifth of the owners affected object to a change the Board of Estimate can make the change only by unanimous vote. This method would make for stability.

Section 19. Interpretation; Purpose. In interpreting and applying the provisions of this resolution, they shall be held to be the minimum requirements adopted for the promotion of the public health, safety, comfort, convenience and general welfare. It is not intended by this resolution to interfere with or abrogate or annul any rules, regulations or permits previously adopted or issued or which shall be adopted or issued pursuant to law by the Fire Department or Health Department, relating to the use of buildings or premises; nor is it intended by this resolution to interfere with or abrogate or annul any easements, covenants, or other agreements between parties; provided, however, that where this resolution imposes a greater restriction upon the use of buildings or premises or upon height of buildings or requires larger open spaces than are imposed or required by such rules, regulations or permits or by such easements, covenants or agreements, the provisions of this resolution shall control.

Section 20. Tenement House Law to Control When: Wherever the provisions of this resolution require larger open spaces and permit less height or less area of the lot to be covered by a building under the jurisdiction of the Tenement House Law than is required by that law, this resolution shall govern, but wherever the provisions of the Tenement House Law, Chapter 99 of the Laws of 1909, require larger open spaces and permit less height or less area of the lot to be covered by a building under its jurisdiction than does this resolution, the Tenement House Law shall govern.

Note.—An amendment to the Tenement House Law which went into effect in April, 1916, expresses this same principle from the standpoint of that law. It reads as follows: "Wherever the provisions of any local ordinance or regulation impose requirements for lower height of building or a less percentage of lot that may be occupied or require wider or larger courts or deeper yards, the provisions of such local ordinance or regulation shall govern. Where, however, the provisions of this chapter impose requirements for lower height of building or a less percentage of the lot that may be occupied or require wider or larger courts or deeper yards, than are required by such local odinance or regulation, the provisions of this chapter shall govern."

Section 21. When Effective: This resolution shall take effect immediately.

APPENDIX III—MAP DESIGNATIONS

Three maps are submitted accompanying the Final Report of the Commission; (1) use district map; (2) height district map; (3) area district map. Each of the above maps is submitted in 35 sections covering the entire city. The 35 sections of the map of the City of New York prepared by the Chief Engineer of the Board of Estimate, under the direction of the Board have been used as the base map in the preparation of the maps herewith submitted. Each sectional map must, in many cases, be used with the adjoining sections in order to interpret the map designations.

1. Use District Designations

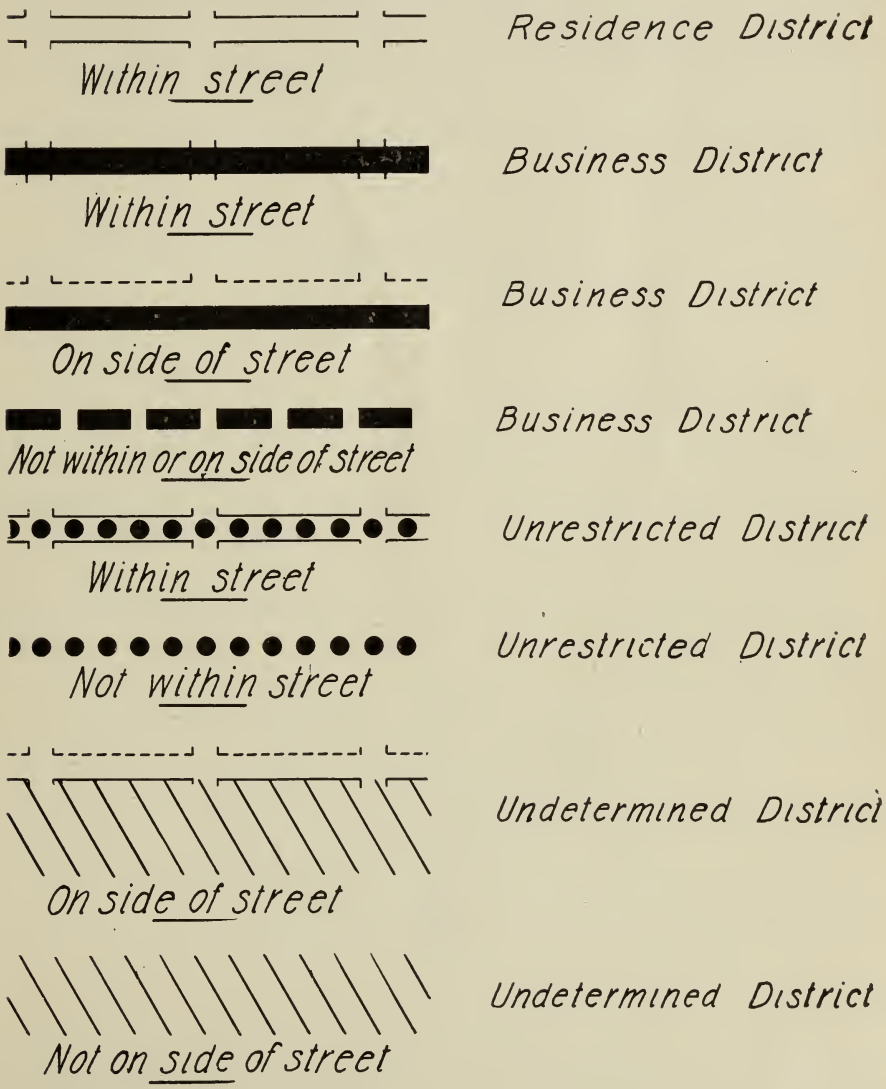


Fig. 49

Use District Map Designation Rules

(*a*) Where a use district designation is shown within a street, any building or any part of a building within a continuous 100 foot belt back from each side of the street or portion thereof so designated shall follow the use regulations for the district designated within the street.

NOTE.—The use district maps differ from the height and area district maps in that on the latter a heavy black line in a street merely marks a boundary line between two different districts which are actually designated by figures or letters within the enclosed areas, while on the use district maps a heavy black line in the street indicates that that street is the center or nucleus of a "business" belt whose width is that of the street plus a hundred feet back from the street line on each side. Except in the exceptional cases which are noted below any building or any part of any building which is built within this belt must conform to the provisions for business districts. One hundred feet was chosen as the right distance back because throughout the five boroughs most lots are approximately 100 feet deep. (See Figure 50.)

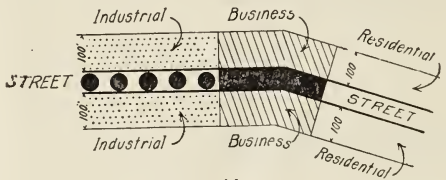


Fig. 50, Use-a

(*b*) Where a use district designation is shown on a side of a street any building or any part of a building within a continuous 100-foot belt back from that side of the street or portion thereof so designated shall follow the use regulations for the district designated on such side of such street whatever may be the designation within such street or its intersection with other streets.

NOTE.—Oftentimes it is desirable to designate a different use for the two opposite sides of a street. In such case each side is taken care of separately by making the

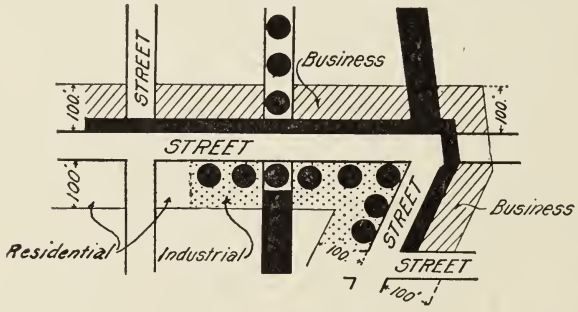


Fig 51. Use-b

use designation shown on one side of the street control everything within a belt 100 feet back from that side and correspondingly on the other side of the street. However, showing designations on the side of the street leaves the middle of the street blank. As a blank designation indicates a residential use, ordinarily, the last clause

of this section was added to obviate misunderstanding. Likewise in an irregular street intersection there may be several kinds of designations, some in the street and some on the side. Again the last clause indicates that the use on the side of any street entering the intersection, controls over any land within a 100 foot belt directly behind it. (See Figure 51.)

(*c*) Where a use district designation is shown along a bulkhead line or shore line, boundary line of a county, state, city, or borough, or boundary line of a public park, reservation or cemetery, any building or part of a building within a continuous 100-foot belt back from that side of such designated portion of such boundry line shall follow the use regulations for the district thus designated.

NOTE.—The use designations are shown in streets wherever there are streets to show them in but to prevent confusion and misunderstanding designations are also shown along many other boundary lines. If it were not for this a strict interpretation of the rules would make many of the boundaries along bulkhead lines, etc., residential where they should obviously be business or unrestricted. (See Figure 52.)

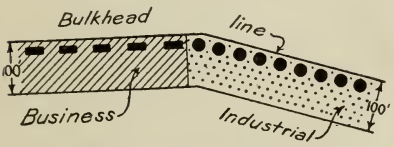


Fig. 52. Use – c.

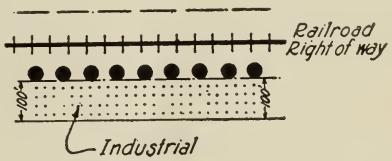


Fig. 53 · Use – d.

(*d*) Where a use district designation is shown along the side of a railroad, any building or part of a building within a continuous 100-foot belt back from such side of such designated portion of such right of way shall follow the use regulations for the district thus designated.

NOTE.—The way the base maps are drawn and owing to the varying width of railroad rights of way it would be confusing to show a use designation in the center of a right of way and expect it to govern both sides, therefore a designation is placed on the side of the railroad as shown to govern 100 feet back from the right of way. On account of the often irregular edge of the right of way and also because the borders of the right of way are not given on the official city map, it is stated that the designation will be shown along the side of the railroad but the 100-foot belt would be reckoned from the edge of the right of way. (See Figure 53.)

(*e*) Where a single use district designation is shown within a street intersection or public open place, any building or any part of any building within both of any two continuous 100-foot belts back from any streets adjacent to where they enter the intersection or place, shall follow the use regulations for the district shown within the intersection or place regardless of any designation within any of the intersecting streets except as provided in rule *b*.

NOTE.—If one and only one use designation is shown within a street intersection it is intended that it shall govern all property within the influence of the intersection. To accomplish this 100-foot belts are drawn on each side of each street entering the intersection. These belts would usually cross at the corners leaving what is usually a square or diamond-shaped piece common to both belts behind each corner. This section would provide that any building or part of a building that came within one of

these spaces should follow the use designation shown in the intersection regardless of the designation shown in the approaching streets. (See Figure 54.)

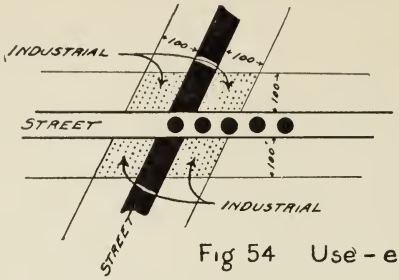


Fig 54 Use - e

(*f*) Where a use district designation is shown in an intersection where one street enters but does not cross another, any building or any part of any building within that portion of a 100-foot belt back from the unentered side of the latter street and directly opposite to the frontage of the area governed by the same designation on the entered side of the street shall follow the use regulations for the district shown within the intersection, except as provided in rule *b*.

NOTE.—There are many stub-end streets in the city, streets that run into another street and stop. As the above rules do not quite cover such a case this rule would provide that the designation shown within such an intersection should govern all property on the unbroken side of the street that comes directly opposite the ends of the two 100-foot belts on either side of the entering street. (See Figure 55.)

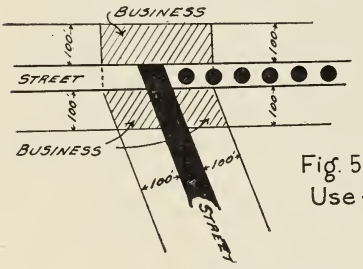


Fig. 55.
Use - f.

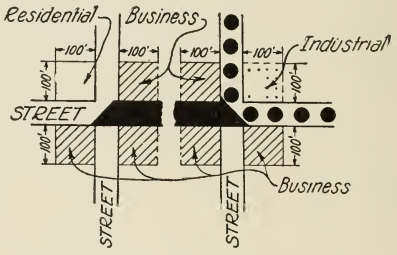


Fig 56. Use-g

(*g*) Where one use district designation is shown in one part of a street intersection or public open space and another designation is shown in another part, each designation shall govern as provided in rule *e*, but only within those blocks actually touched by such designation.

NOTE.—If it is desired to show different uses on different parts of a square or intersection it can be done by showing on each part of the intersection the designation wanted and limiting its influence to the block or blocks actually touched by it. (See Figure 56.)

(*h*) Where one street crosses over another at a different level, and the use district designations on the two streets are different, any building or any part of any building within a 100-foot belt back from each side of the lower street shall follow the use regulations for the district designated within the lower street, but if it is a less restrictive use than that designated

within the street at the upper level the latter shall govern exclusively within 100 feet thereof above the curb level of the upper street.

NOTE—There are many cases in New York where streets cross at different levels. Often one of the streets, usually the lower, is business and the upper residential. It is obvious that above the curb level of the upper street, the upper use designation should govern, but in most cases there is no reason why the business use on the lower street should not carry through at the lower level only. (See Figure 57.)

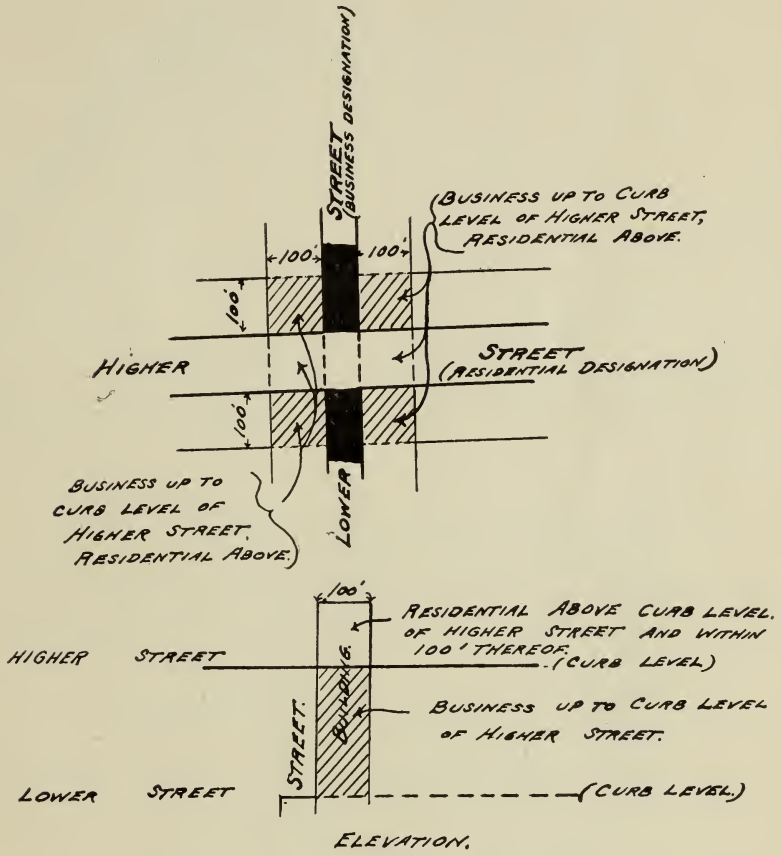


Fig. 57. Use – h.

(*i*) Where a single use district designation completely envelopes an area, any building or any part of a building within such area, except where otherwise specifically designated, shall follow the use regulations for the district shown by the enveloping designation.

NOTE.—Where a block is so deep that the 100-foot belts back from the surrounding streets do not meet in the middle of the block, and yet the belts are all of the same use designation, the unreached space in the middle should also be of the same designation. (See Figure 58.)

(*j*) Where any part of an area bounded by two or more kinds of use district designations, including any such area bounded in part by a bulkhead or shore line, a boundary line of a county, state, city or borough, or a boundary line of a public park, reservation or cemetery, is not governed by any of these rules for use district map designations, such part shall be

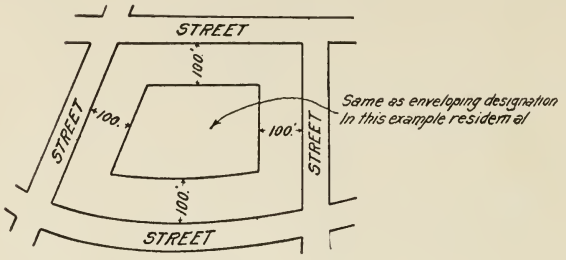


Fig. 58. Use - i.

governed, except where otherwise specifically designated, by the district designation nearest thereto.

NOTE.—If in the middle of an area bounded by street or other boundary lines there is property unreached by any of the surrounding 100-foot belts, and such belts are not all alike, the unreached property would be apportioned among the bordering uses according to which use any particular portion of the property was nearest. (See Figure 59.)

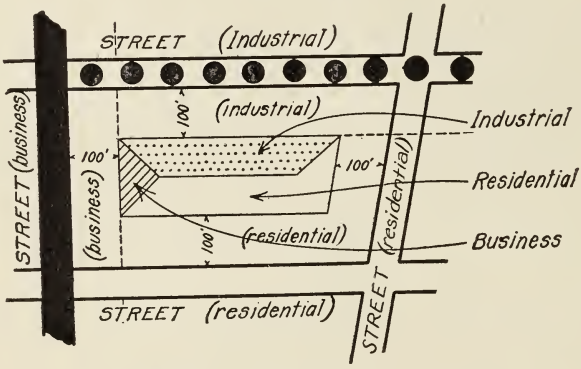


Fig. 59. Use - j.

(*k*) Where an area would by these rules for use district map designations be placed in two or more districts of different kinds, the least restrictive designation shall govern but not further than to the nearer side of the first street within which a more restrictive district designation is shown.

NOTE.—There are some cases that are not covered by any of the above rules, as for example property in the middle of a block less than 200 feet deep between a business street and a residence street. In such a case the business use would govern back for 100 feet anyway, even though the streets were only 100 feet apart, but if it came down to a case where the 100-foot business belt would reach across the residence

street, the property across the residence street would be governed only by the residence use regulations. (See Figure 60.)

(*l*) The residence district designation is used within street lines only. If the street lines are dotted they do not constitute a residence district designation. Street lines included within the boundaries of an undetermined district do not constitute a residence district designation. A blank space within a street intersection does not constitute a residence district designation

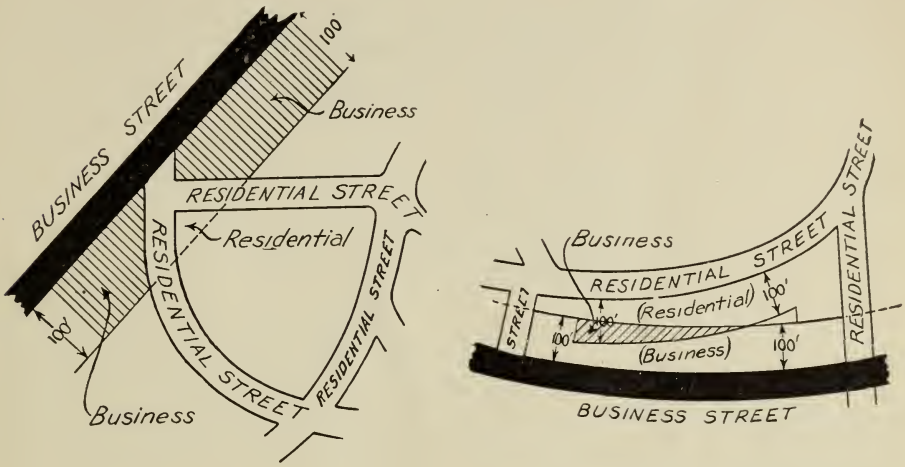


Fig. 60. Use-k.

unless it occupies the entire intersection or in case it occupies only a part of the intersection unless a business district designation occupies the remaining part of the intersection.

2. Height District Map Designations

General Designations

1 = One times district.
1¼ = One and one-quarter times district.
1½ = One and one-half times district.
2 = Two times district.
2½ = Two and one-half times district.

Height District Map Designation Rules

(*a*) Where a boundary line between any two height districts is shown within a street or streets or a street intersection, any building or any part of a building within a continuous 100-foot belt back from the more restricted

side of the boundary line street or streets shall follow the height designations for the district shown on the less restricted side of the boundary line.

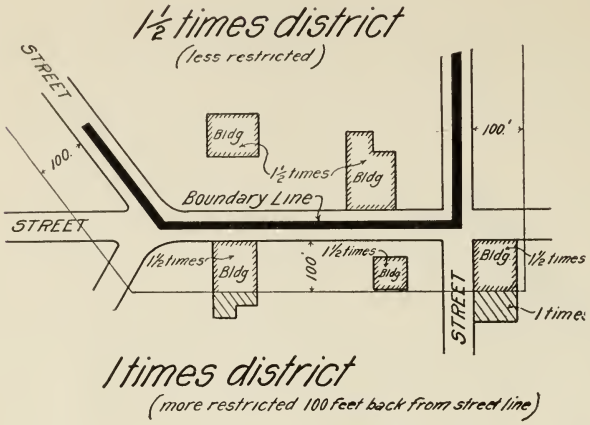


Fig 61. Height—"a"

NOTE.—For convenience the boundary line between different height districts are shown on the maps usually in the middle of the streets although it is felt that in almost all cases both sides of the street should be allowed to go to the same height. Therefore when a boundary line is shown in the middle of a street it means that the actual boundary line of the less restricted district is 100 feet beyond the far side of the bounding street. (See Figure 61.)

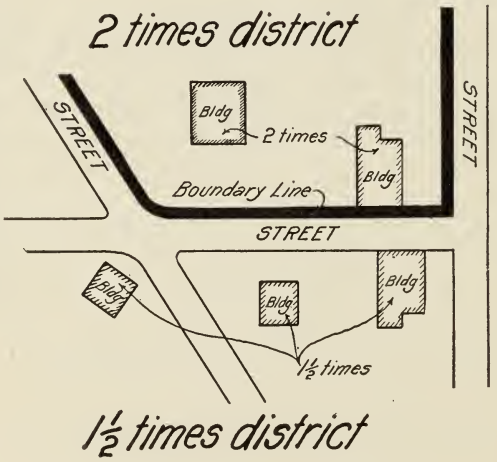


Fig. 62. Height—"b"

(*b*) Where a boundary line between any two height districts is shown on the side of a street a building fronting on that side of the street shall follow the height regulations for the district shown back from that side of the street.

(*c*) Where a boundary line between any two height districts is shown approximately 100 feet back from the side of a street or streets, any building or any part of a building within a continuous 100-foot belt back from that side of the street or streets shall follow the height regulations for the district within which the street or streets lie.

NOTE.—In special cases as, for example, Fifth avenue, Manhattan, which is a single street in a one and-quarter times district surrounded by one and one-half and two times districts, neither of the above rules would be applicable and thus it is necessary to show the boundary line about 100 feet back from the street line in order to indicate that both sides of the street come within the height district designated for the street. (See Figure 63.)

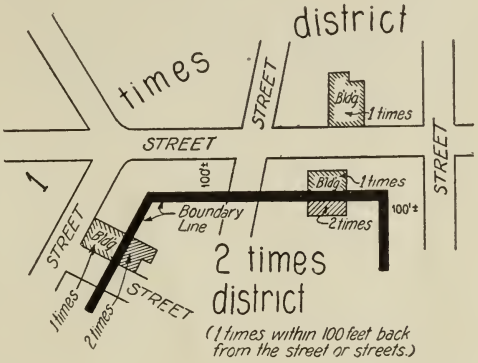


Fig 63 Height-"c"

(*d*) Where the same lot or portion of a lot would by these rules for height district map designations be placed in two or more districts of different kinds, the least restrictive designation shall govern.

NOTE.—Occasionally cases arise where the same property would come within two different height districts. In such cases the less stringent would govern. (See Figure 64.)

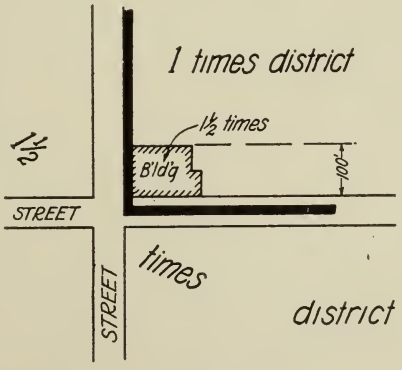


Fig. 64, Height-d.

3. Area District Map Designations

General Designations

A = A district.
B = B district.
C = C district.
D = D district.
E = E district.

Area District Map Designation Rules

(*a*) Where a boundary line between any two area districts is shown within a street or streets or a street intersection all areas within a continuous 100-foot belt back from the more restricted side of the boundary line street or streets shall follow the area regulations for the district shown on the less restricted side of the boundary line.

Note.—It seemed obvious that in most cases both sides of a street should be treated alike and the same area as well as the same height regulations should govern both sides of the street, but placing the actual boundary lines of districts back in the middle of the block led to many difficulties. Therefore, for convenience, they were generally placed in the middle of the street with the understanding that the actual influence of the less restricted district would extend to a 100-foot belt beyond the bounding streets. (See Figure 65.)

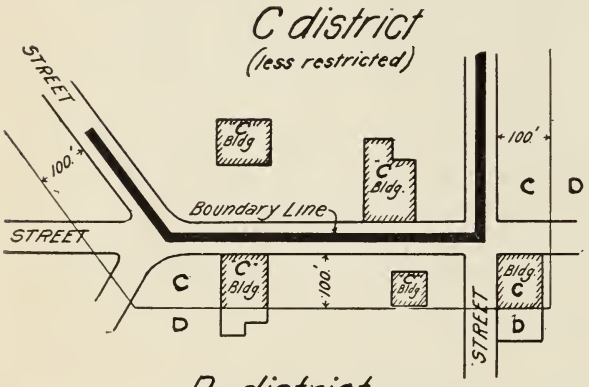


Fig. 65 Area—"a"

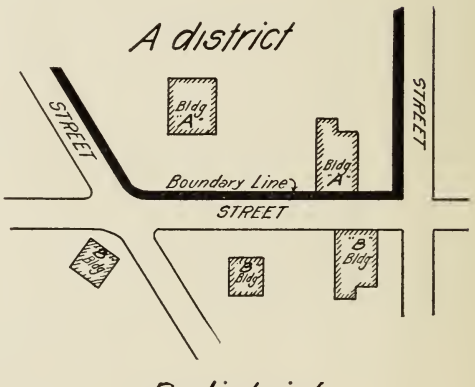


Fig. 66 Area—"b"

(*b*) Where a boundary line between any two area districts is shown on the side of a street all areas on that side of the street shall follow the area regulations for the district shown back from that side of the street.

Note.—In various cases both sides of the street should not be treated alike and buildings should be allowed larger yards and courts on one side than on the other. This is particularly true around the borders of the warehouse or A districts and therefore when an area district boundry line is shown on the side of a street it means that the middle of the street itself is the actual boundary line between the two districts. (See Figure 66.)

(*c*) Where a boundary line between any two area districts is shown approximately 100 feet back from the side of a street or streets all areas within a continuous 100-foot belt back from that side of the street or streets shall follow the area regulations for the district within which the street or streets lie.

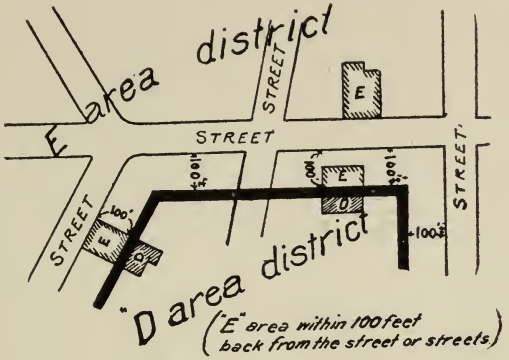


Fig 67. Area - "C"

(*d*) Where a boundary line between any two area districts is shown along the side of a railroad that side of the right-of-way of such railroad shall be the division line separating the area districts on either side of such boundary line.

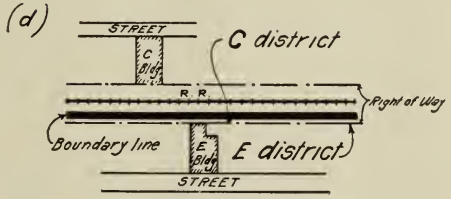


Fig 68

(*e*) Where a boundary line between any two area districts is shown and dimensions given locating it from recognized lines or points, the area designations on either side shall govern up to such located boundary line.

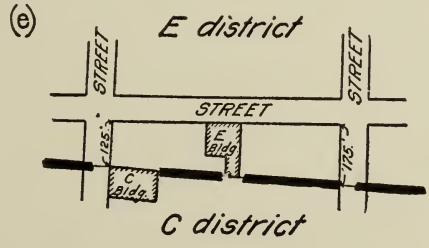


Fig. 69

(*f*) Where the same area would by these rules for area district map designations be placed in two or more districts of different kinds, the least restrictive designation shall govern.

NOTE—There are still cases likely to arise in which the same property would lie within two different districts. To take care of such cases the general rule is made that the area regulations of the less restricted district shall govern. (See Figure 70.)

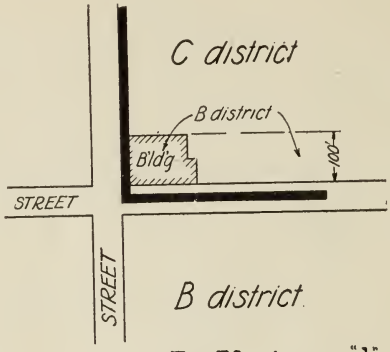


Fig. 70, Area - "d"